SAGEM F@st™ 1000

User Guide

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SAGEM

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- Windows™ is a registered trademark of Microsoft Corporation.

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1. SAGEM F@st™ 1000 modem overview

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1.1 Overview

The SAGEM F@st™ 1000 is an ADSL modem equipped of an USB Interface.

If you have an ADSL compatible telephone line, it will enable you to access remote (wide area) networks at high bit rates by linking a terminal connected via a USB interface to an Internet Access Provider (IAP).

The SAGEM F@st™ 1000 is based on ATM over ADSL technology.

1.2 Safety instructions

- Port safety levels
  - The port safety level is specified in the table in section 1.4.
- Mains power supply
  - This equipment is designed for connection to a TN system power supply.
  - The equipment is not designed for connection to an IT system electrical installation (power supply with separate neutral).
- Power circuit protection
  - Protection against short circuits and leaks between phase, neutral and earth must be provided by the building's electrical installation. The power circuit supplying the equipment must have 16 A protection against current surges, and differential protection.
- Connection to the mains network
  - This equipment must be connected to a power outlet that is located nearby and readily accessible. It must be connected only using the mains adapter originally supplied in the packaging.
- Accessing the inside of the equipment
  - Any attempt to open the mains adapter block is strictly prohibited and may expose you to the risk of fatal electric shocks.
  - Any attempt to open the SAGEM F@st™ 1000 unit is strictly prohibited and may expose you to the risks of fatal electric shocks.

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1.3 Installation instructions

1.3.1 Environment

- The SAGEM F@st™ 1000 must be installed and used inside a building.
- Room temperature must not exceed 45°C.
- The SAGEM F@st™ 1000 can be placed on a desktop or mounted vertically on a wall.
- The SAGEM F@st™ 1000 must not be exposed to strong sunlight or strong sources of heat.
- The SAGEM F@st™ 1000 must not be placed in an environment subject to significant steam condensation.
- The SAGEM F@st™ 1000 must not be exposed to splashes of water.
- The SAGEM F@st™ 1000 unit must not be covered.
- The SAGEM F@st™ 1000's mains adapter unit must not be covered.

OBSERVE AND RETAIN THESE INSTRUCTIONS

1.3.2 Power source

- The SAGEM F@st™ 1000 modem is supplied with its own mains adapter. It must not be used with any other adapter.
- This Class II adapter requires no earth. The connection to the mains system must be compliant with the information conveyed on its label.
- Use a readily accessible mains outlet near to the modem. The power cable is 2 m long.
- Arrange the power cable in such a way as to avoid any accidental disconnection of the power supply to the modem.

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1.4 Warnings from regulatory organizations

1.4.1 Safety levels on the mains adapter unit

Connector	*Function*	*Safety level*
Two-pole mains AC socket	Primary power supply port	HVPC[1]
MINI-DIN DC socket (4-pin)	DC power supply port	SELV[2]

1.4.2 Safety levels on the SAGEM F@st™ 1000 unit

Connector	*Function*	*Safety level*
PWR	DC power supply port	SELV
USB	USB port	SELV
LINE	ADSL line port	TNV3[3]

1.5 CE declaration of conformity

[1] **H**azardous **V**oltage, **P**rimary **C**ircuit
[2] **S**afety **E**xtra **L**ow **V**oltage Circuit
[3] **T**elecommunication **N**etwork **V**oltage Level **3** Circuit

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DECLARATION CE DE CONFORMITE
EC DECLARATION OF CONFORMITY

FABRICANT *MANUFACTURER*	:	SAGEM SA
ADRESSE *ADDRESS*	:	6 Avenue d'Iéna 75783 PARIS CEDEX 16 - FRANCE
NOMS DU PRODUIT *PRODUCT NAMES*	: :	SAGEM F@st™1000 - MODEM ADSL SAGEM USB
REFERENCES USINE *MANUFACTURING REFERENCES*	: :	236607070 - 251058429

Ce produit est conforme aux exigences des directives européennes suivantes :
This product conforms to the requirements of the following EEC directives :

1999/5/CE : Directive du Parlement Européen et du Conseil du 9 mars 1999, concernant les équipements hertziens et les équipements terminaux de télécommunications et la reconnaissance mutuelle de leur conformité.
Directive of the European Parliament and of the council of 9 March 1999 on the Radio equipment and Telecommunication Terminal equipment and the mutual recognition of their conformity.

Nous déclarons sous notre seule responsabilité que nous procédons aux opérations requises par la Directive 1999/5/CE et que le produit est conforme aux exigences essentielles des Directives
We declare under our sole responsibility that we carry out all the activities required by the Directive 1999/5/EC and that the product is compliant with the essential requirements contained in Directives

89/336/CEE (03-05-1989) : Directive du Conseil concernant le rapprochement des législations des Etats membres relatives à la compatibilité électromagnétique.
Council directive concerning the approximation of the laws of the Member States relating to electromagnetic compatibility.

73/23/CEE (19-02-1973) : Directive du Conseil concernant le rapprochement des législations des Etats Membres relatives au matériel électrique destiné à être employé dans certaines limites de tension.
Council directive concerning the approximation of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits.

Et qu'il utilise efficacement le spectre attribué aux communications radio terrestres ou spatiales.
And is efficient when using the spectrum of terrestrial or space radio communications.

Cette conformité est présumée par le respect intégral des normes harmonisées européennes :
This conformance is presumed by integrally meeting the harmonised European standards :

EN 55022 : 09.98 Classe B
EN 55024 : 09.98
EN 61000-3-2 : 04.95 + A14 : 10.00
EN 61000-3-3 : 01.95

EN 60950 : 08.92 + A1 : 01.93 + A2 : 08.93 + A3 : 10.95 + A4 : 03.97 + A11: 10.97

Millésime d'apposition du marquage CE : **01**
Year in which the EC marking was affixed

A / *Place of issue* PARIS :

Le /*Date* : 02 AOUT 2001

Titre : Directeur de l'activité Réseaux et Optique /
Title : VP, Director, Networks and Optic Business Unit

Nom / *Name* : Marc MATHIEU

Signature/*Signed* :

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Español — **DECLARACIÓN CE DE CONFORMIDAD**

FABRICANTE	:	SAGEM SA
DIRECCIÓN	:	6 Avenue d'Iéna 75783 PARIS CEDEX 16 - FRANCIA
NOMBRE DEL PRODUCTO	:	SAGEM F@st™1000 – MODEM ADSL SAGEM USB
REFERENCIA DE FÁBRICA	:	236607070 - 251058429

Este producto cumple con las exigencias de las siguientes directivas europeas:

1999/5/CE Directiva 1999/5/CE del Parlamento Europeo y del Consejo, de 9 de marzo de 1999, sobre equipos radioeléctricos y equipos terminales de telecomunicación y reconocimiento mutuo de su conformidad.

Declaramos bajo nuestra única responsabilidad que efectuamos las operaciones exigidas por la Directiva 1999/5/CE y que el producto satisface las exigencias fundamentales de las Directivas

89/336/CEE Directiva del Consejo, de 3 de mayo de 1989, sobre la aproximación de las legislaciones de los Estados miembros relativas a la compatibilidad electromagnética.

73/23/CEE Directiva del Consejo, de 19 de febrero de 1973, relativa a la aproximación de las legislaciones de los Estados miembros sobre material eléctrico destinado a utilizarse con determinados límites de tensión.

Y que utiliza de manera eficaz el especro atribuido a las comunicaciones de radio terrestres o espaciales.
Se presume esta conformidad dado el respeto integral de las normas armonizadas europeas:
Fecha de colocación de la marca CE: **01**

Italiano — **DICHIARAZIONE CE DI CONFORMITA**

COSTRUTTORE	:	SAGEM SA
INDIRIZZO	:	6 Avenue d'Iéna 75783 PARIS CEDEX 16 - FRANCE
NOME DEL PRODOTTO	:	SAGEM F@st™1000 – MODEM ADSL SAGEM USB
RIFERIMENTO STABILIMENTO	:	236607070 - 251058429

Il presente prodotto è conforme alle esigenze delle seguenti direttive europee :

1999/5/CE Direttiva 1999/5/CE del Parlamento europeo e del Consiglio, del 9 marzo 1999, riguardante le apparecchiature radio e le apparecchiature terminali di telecomunicazione e il reciproco riconoscimento della loro conformità

Dichiariamo sotto la nostra piena responsabilità che procediamo alle operazioni richieste dalla Direttiva 1999/5/CE e che il nostro prodotto è conforme alle esigenze essenziali delle Direttive

89/336/CEE Direttiva del Consiglio, del 3 maggio 1989, per il ravvicinamento delle legislazioni degli Stati membri relative alla compatibilità elettromagnetica

73/23/CEE Direttiva del Consiglio, del 19 febbraio 1973, concernente il ravvicinamento delle legislazioni degli Stati membri relative al materiale elettrico destinato ad essere adoperato entro taluni limiti di tensione

Questo prodotto sfrutta in modo efficace lo spettro attribuito alle radiocomunicazioni terrestre o spaziali.
Tale conformità è presunta dal rispetto integrale delle normative europee armonizzate :
Millesimo d'apposizione della marcatura CE : **01**

Deutsch — **EG-KONFORMITÄTSERKLÄRUNG**

HERSTELLER	:	SAGEM SA
ADRESSE	:	6 Avenue d'Iéna 75783 PARIS CEDEX 16 - FRANKREICH
PRODUKTNAME	:	SAGEM F@st™1000 – MODEM ADSL SAGEM USB
WERKSNUMMER	:	236607070 - 251058429

Dieses Produkt erfüllt die Anforderungen der folgenden europäischen Richtlinien:

1999/5/CE Richtlinie 1999/5/EG des Europäischen Parlaments und des Rates vom 9. März 1999 über Funkanlagen und Telekommunikationsendeinrichtungen und die gegenseitige Anerkennung ihrer Konformität

Wir erklären unter unserer alleinigen Verantwortlichkeit, dass wir die von der Richtlinie 1999/5/EG vorgeschriebenen Maßnahmen durchführen und dass das Produkt die wesentlichen Forderungen der folgenden Richtlinien erfüllt

89/336/CEE Richtlinie des Rates vom 3. Mai 1989 zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit

73/23/CEE Richtlinie des Rates vom 19. Februar 1973 zur Angleichung der Rechtsvorschriften der Mitgliedstaaten betreffend elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen

Und dass es das von den Empfehlungen für terrestrische/satellitengestützte Funkkommunikation zugewiesene Spektrum effizient nutzt.
Die Konformität wird aufgrund der vollständigen Einhaltung der harmonisierten europäischen Normen vorausgesetzt:
Jahreszahl der Anbringung der CE-Kennzeichnung: **01**

Nederlands — **EG-VERKLARING VAN OVEREENSTEMMING**

FABRIKANT	:	SAGEM SA
ADRES	:	6 Avenue d'Iéna 75783 PARIS CEDEX 16 - FRANKRIJK
PRODUCTNAAM	:	SAGEM F@st™1000 – MODEM ADSL SAGEM USB
REFERENTIENR. FABRIEK	:	236607070 - 251058429

Dit product voldoet aan de eisen van de volgende Europese richtlijnen:

1999/5/CE Richtlijn 1999/5/EG van het Europees Parlement en de Raad van 9 maart 1999 betreffende radioapparatuur en telecommunicatie-eindapparatuur en de wederzijdse erkenning van hun conformiteit

Wij verklaren onder onze eigen verantwoordelijkheid dat wij de door de Richtlijn 1999/5/EG voorgeschreven handelingen uitvoeren en dat het product voldoet aan de essentiële vereisten van de Richtlijnen

89/336/CEE Richtlijn van de Raad van 3 mei 1989 betreffende de onderlinge aanpassing van de wetgevingen van de Lid-Staten inzake elektromagnetische compatibiliteit

73/23/CEE Richtlijn van de Raad van 19 februari 1973 betreffende de onderlinge aanpassing van de wettelijke voorschriften der Lid-Staten inzake elektrisch materiaal bestemd voor gebruik binnen bepaalde spanningsgrenzen

En dat het doelmatig gebruik maakt van het toegewezen spectrum voor land- en ruimtecommunicatie.
Deze conformiteit wordt verondersteld door de volledige naleving van de Europese geharmoniseerde normen :
Jaar van aanbrenging van de CE markering : **01**

1.6 Bearer and transmission mode

1.6.1 ADSL

Asymmetric Digital Subscriber Line:

- The conventional telephone line is used to superimpose the transmission of high speed digital signals on the conventional telephone signals.
- Transmission is said to be "asymmetric" because the maximum bit rate received by the user can be up to ten times higher than the maximum bit rate employed by the user.

It is important to remember the following points:

- The real bit rates of your ADSL line will depend on the Quality of Service specified by your Operator and by your Service Provider.
- The telephony and digital transmission services are totally independent and can be used at the same time. In addition, the telephone service does not depend on the state of the SAGEM F@st™ 1000: whether powered up or powered down, whether the data connection is established or not, the telephone service will always be available.

1.6.2 ATM

ATM (Asynchronous Transfer Mode) is a transmission technique whereby the flow of data (received in packets of variable length) is segmented into smaller packets of fixed length called cells (53 octets long).

These cells are conveyed from end to end (through the network's various ATM elements) via virtual channels.

Each virtual channel (VC) is defined by two identifiers supplied by the Operator:

- VPI (Virtual Path Identifier)
- VCI (Virtual Channel Identifier).

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1.6.3 To which ADSL lines can the SAGEM F@st™ 1000 be connected?

The SAGEM F@st™ 1000 is compliant with the following DMT (Discrete Multi Tone) technology ADSL standards:

- ANSI T1.413 Rev 2,
- G.992.1 (G.dmt),
- G.992.2 (G.lite),
- G.994.1 (handshake procedure).

The operation mode depends on the installed drivers.

Compliance with these standards therefore means that the SAGEM F@st™ 1000 can be connected to all existing DMT technology ADSL lines around the world.

The standard used depends on negotiation with the access multiplexer (DSLAM) used on initializing the ADSL link.

1.6.4 How should the SAGEM F@st™ 1000 be used with analog terminals?

For the SAGEM F@st™ 1000 to coexist with analog terminals, splitters separating the frequency bands allocated to transfer voice and digital data must be used.

The various options are specified in chapter 2.

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1.7 Description

The SAGEM F@st™ 1000 is supplied housed in a plastic casing.

The casing is in two parts: a base and a cover.

For desktop use, the base is provided with four non-slip rubber feet.

The cover has four LEDs for monitoring operation.

The SAGEM F@st™ 1000 features the following interfaces:

- Power supply interface.
- USB interface.
- Wide area network interface (ADSL).

The interface ports are all implemented on the rear of the unit.

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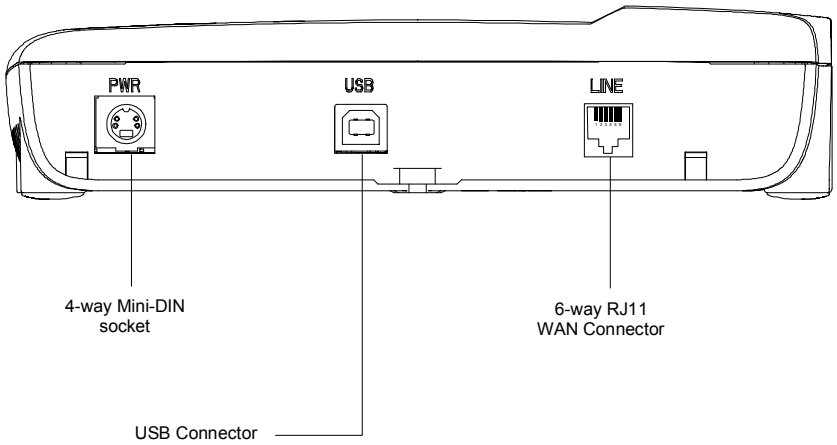
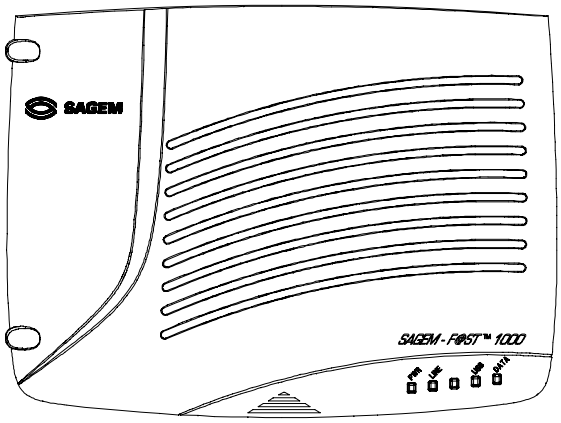
Connectors

Looking from the rear, and reading from left to right, the connectors are:



Marking	Interface	Connector
PWR	Power supply interface	4-way MINI-DIN socket
USB	USB interface	Type B female connector
LINE	Remote network interface (ADSL)	6-way RJ11 connector

Supervision LEDs



The supervision LEDs, from left to right on the cover, are as follows:

Marking	Meaning	Color
PWR	Presence of power supply	Green
LINE	Accessibility to a wide area network (ADSL)	Green
USB	Accessibility to a computer connected by USB interface	Green
DATA	Port activity	Green

Note: How to interpret these four LEDs is described in section 2.3 (Operation) and section 4 (Troubleshooting the SAGEM F@st™ 1000 modem).

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1.8 Composition of the supply

The SAGEM F@st™ 1000 is supplied in a box with:

- 1 SAGEM F@st™ 1000 unit
- 1 Mains adapter
- 1 ADSL line cable (remote network) black - RJ11 / RJ11 (length = 3 m)
- 1 Straight type A/type B USB cable, light gray (length = 1,5 m)
- Two or three microfilters (optional).

The documentation includes:

- A sheet with warning notes concerning installation and use.
- A CD ROM with:
  - a copy of the application software in French and in English for the SAGEM F@st™ 1000,
  - SAGEM F@st™ 1000 user guide in French and in English, in pdf format files,
  - Acrobat software in French and in English, for reading the pdf files,
  - an autorun file for the CD-ROM that lets you choose whether to install the application software or read the documentation.

Note: If the equipment is received damaged or incomplete, contact your SAGEM F@st™ 1000 supplier.

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1.9 Prerequisites

To use the SAGEM F@st™ 1000, you must have the following:

Telephone line side:

- Telephone line supporting ADSL transmission.
- Splitters compliant with ADSL standards (use with an analog telephone or fax terminal).
- Subscription to a service provider (for the Internet connection).

Computer with USB port side:

Your computer's minimum configuration will be:

Windows XP	Pentium II 400 MHz, 128 Mb RAM
Windows 2000	Pentium II 266 MHz, 64 Mb RAM
Windows ME	Pentium II 233 MHz, 64 Mb RAM
Windows 98FE	Pentium 166 MHz, 32 Mb RAM
Windows 98SE	Pentium 166 MHz, 32 Mb RAM

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2. Connecting the SAGEM F@st™ 1000

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2.1 Physical installation

Desktop

- Place the SAGEM F@st™ 1100 unit on the base's non-slip feet.
- Check that the various cables are run correctly to avoid any risk that the cables might be tugged or the unit might topple.

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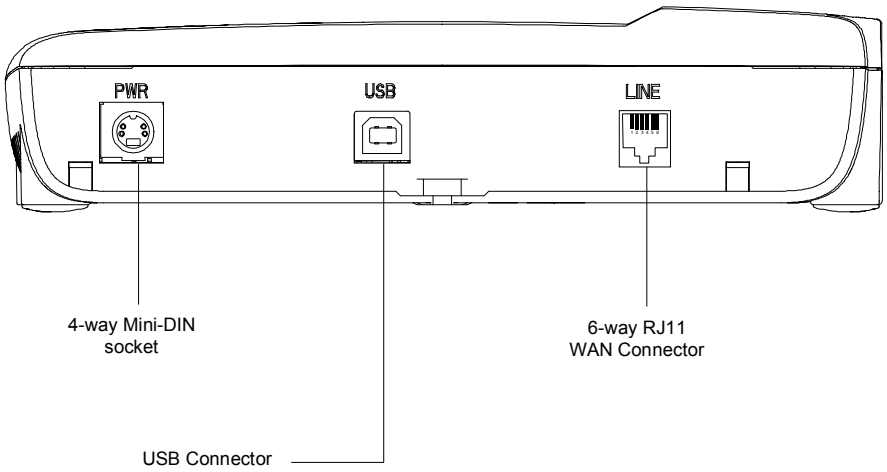
2.2 SAGEM F@st™ 1100 port connections

Three connections are required to use the SAGEM F@st™ 1100 :

- Connection to the mains supply.
- Connection to a computer by USB interface.
- Connection to the wide area network (ADSL compatible telephone line).



SAGEM F@st™ 1000 rear panel

2.2.1 Connection to the mains supply

- Plug the adapter's 4-way MINI-DIN connector into the corresponding socket (marked **PWR**) on the rear panel of the SAGEM F@st™ 1000.
- Connect the mains adapter to the electrical power outlet.
- Check that the **PWR** LED on the front panel of the cover is lit.

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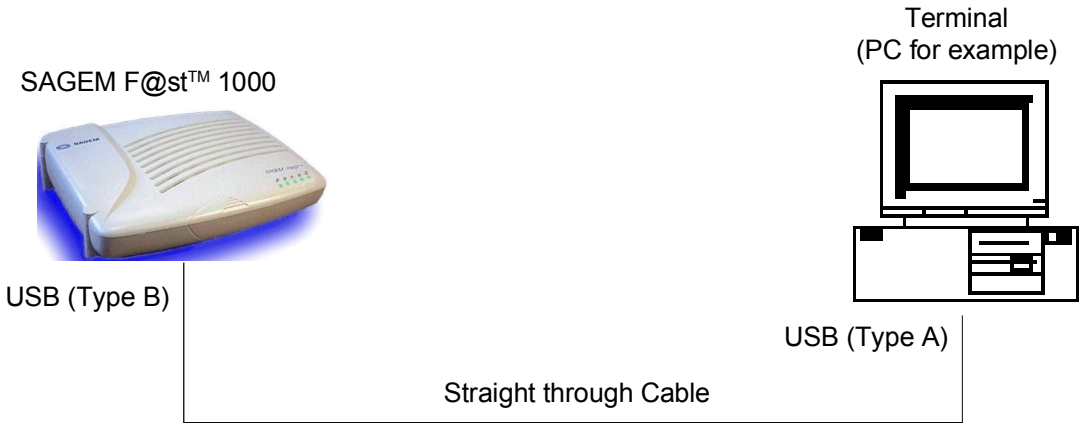
2.2.2 Connection to a computer by USB interface

➢ Connect the "flat" end (type A USB connector) of the "USB" connecting cable (supplied in the package) to your computer and the other end to the "USB" port of the SAGEM F@st™ 1000 (type B USB connector).



The SAGEM F@st™ 1000 can also be connected to the computer via a USB hub.

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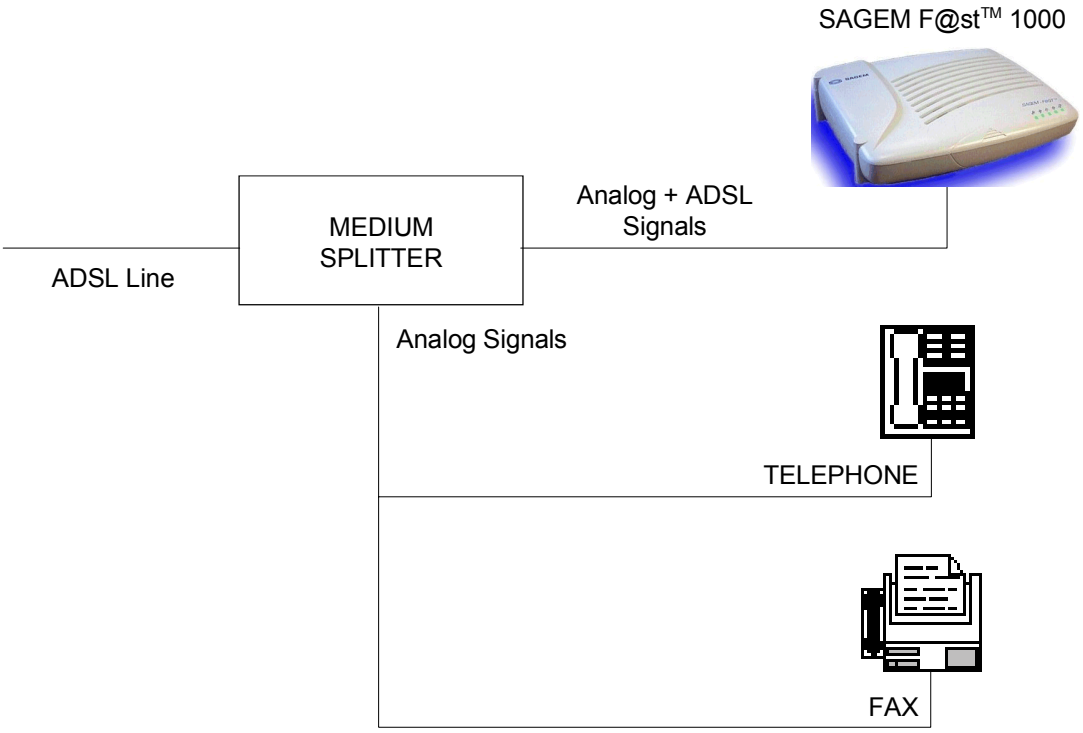
2.2.3 Connecting analog terminals

To connect the SAGEM F@st™ 1000 and analog terminals to the same telephone line, you must use splitters.

There are two types of configuration that use splitters with different structures.

More often than not, your Operator will provide you with the information needed to choose between the two options.

Configuration with input splitter:



The maximum number of analog terminals that can be connected will be specified by your Operator.

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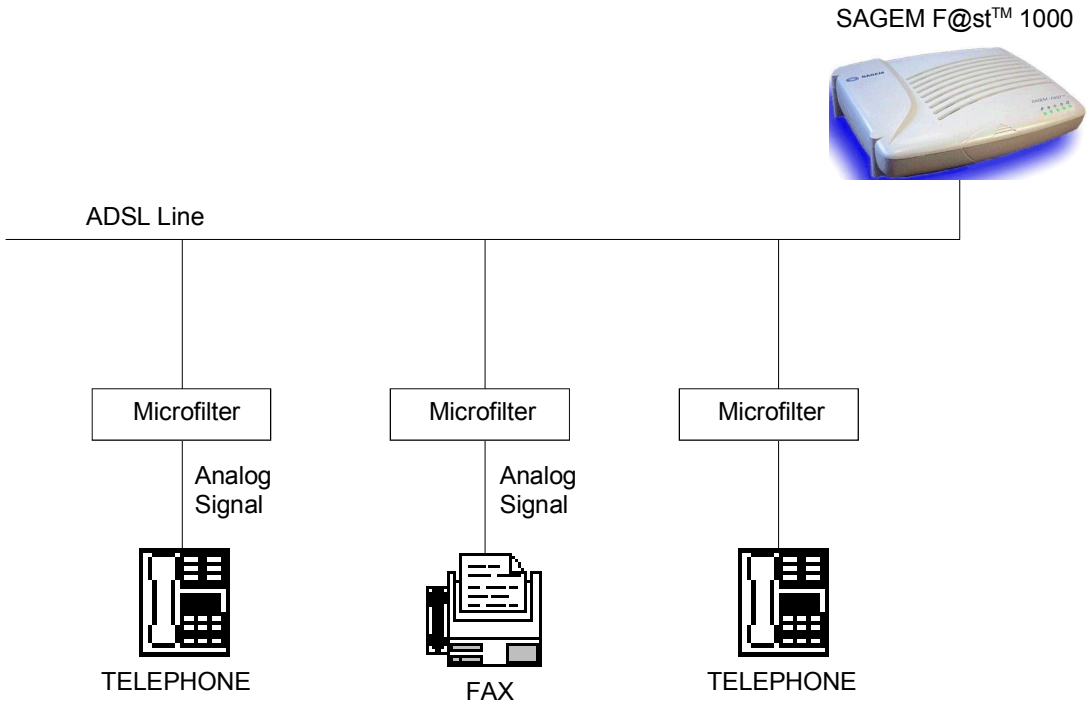
Configuration with distributed microfilters



The configuration with microfilters requires one microfilter for each analog terminal.

The maximum number of analog terminals that can be connected will be specified by your Operator.

2.2.4 Connection to the wide area network (ADSL line)

Caution: Use only the "ADSL" line cable supplied with the SAGEM F@st™ 1000 for the link to the wide area network.

This 3 m cable is terminated at both ends by an RJ11 connector (for details, refer to the appendices).

Connect imperatively in the following order:

- Connect one of the RJ11 connectors to the corresponding connector (marked **LINE**) on the rear panel of the SAGEM F@st™ 1100.
- Connect the second RJ11 connector to a corresponding connector for the link to the wide area network.

If using a splitter or microfilters, their output must also be fitted with an RJ11 connector. Otherwise, contact your Operator to obtain a special adapter or cable.

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2.3 Installation procedure

This section summarizes the procedure when installing the SAGEM F@st™ 1100 for the first time.

- Check the compatibility of the mains supply with the SAGEM F@st™ 1100.
- Check with your Operator to ensure that the ADSL line is available.
- Check with your Access Provider to ensure that your subscription is valid.
- Install the drivers of your SAGEM F@st™ 1000.
- Connect the SAGEM F@st™ 1000:
  - to the mains supply,
  - to the remote network via an ADSL compatible telephone line,
  - to your computer via USB interface.
- Check that the connections have been correctly made, as indicated by the four LEDs on the SAGEM F@st™ 1000. The required LED states will depend on whether the USB or Ethernet mode is used:

PWR	LINE	USB	DATA
Green, on steady	Green, on steady	Green, on steady	Green, on steady

This table shows the state of the LEDs before connecting the USB cable (see chapter 3 for details).

- Finish the installation of your modem.

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3. Installing the SAGEM F@st™ 1000 modem

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3.1 Introduction

Installation of the SAGEM F@st™ 1000 modem is Plug and Play; the process differs according to your PC's environment:

- Windows XP,
- Windows 2000 professional,
- Windows Millennium,.
- Windows 98 First Edition,
- Windows 98 Second Edition.

Before starting the installation of your SAGEM modem,
find the installation CD-ROM for your operating system
(Windows XP, Windows 2000, Windows ME, Windows 98FE or Windows 98SE).

If you have any problems during the installation, refer to Section 4
to uninstall the drivers and restart the operation from the beginning.

If you want to upgrade your version of Windows, you should uninstall your SAGEM modem before beginning the upgrade of Windows.
You can install it again as soon as the upgrade is completed.

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3.2 Installing for Windows XP

For Windows XP professional, the installation of the SAGEM F@st™ 1000 modem is carried out according to the following process :

- Installing the modem drivers,
  - ADSLBOOT driver: This driver is required when the modem starts-up (boot loader),
  - VVBusUSB driver: It manages data exchanges on the USB bus,
  - VVBATM driver: It manages the ATM link layer.
- Configuring the ATM parameters.

Remark: All those steps are realized automatically by the installation software.

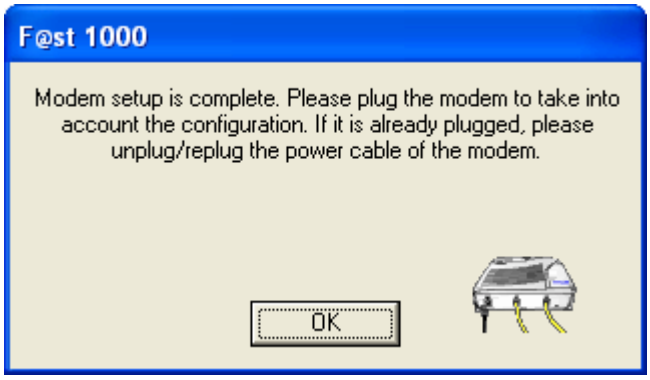
3.2.1 Installing the modem

- Switch off the modem if it is powered by unplugging the power supply cable either on the modem side (connector marked **PWR**), or on the mains side.
- Switch on the PC and wait for the complete start-up of Windows XP.
- Insert the installation CD-ROM; the home page appears after a few seconds.

  If this screen does not appear automatically proceed as follows:

  From the **Start** menu select **Run** then enter **<Drive letter for the CD-ROM>:\English\Setup.exe**.
- Select **Modem setup** on this page.

The install program copies the files to the PC's hard drive, then displays the following message:


F@st 1000
Modem setup is complete. Please plug the modem to take into account the configuration. If it is already plugged, please unplug/replug the power cable of the modem.
OK

- Click **OK** and connect the modem to the PC with the USB cable, and to the telephone line (ADSL) with the line cable.
- Connect the power supply cable to the modem (connector marked **PWR**), then connect the mains adapter to power up the SAGEM F@st™ 1000.

Windows detect the new hardware and installs successively ADSLBOOT, VVBusUSB et VVB ATM drivers. Messages displayed at the botton right of Windows desktop inform you about the status of the installation process

Remark : If a message window about the digital signature of the drivers (Windows logo) appears during installation, click on "Continue" to go on with the installation of the modem.

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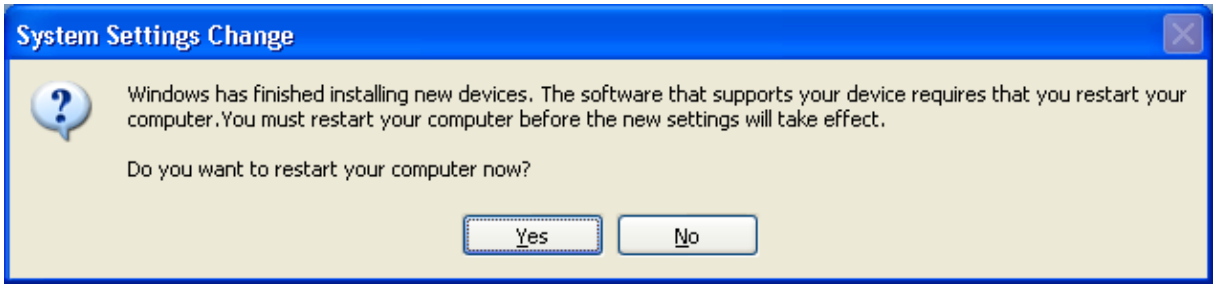
At the end of the installation, the following screen appears:

Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
SAGEM VVB ATM port vX.Y.Z
The hardware you installed will not work until you restart your computer.
Click Finish to close the wizard.
< Back
Finish
Cancel

➢ Click on "Finish". After a few seconds, the following screen appears:


System Settings Change
Windows has finished installing new devices. The software that supports your device requires that you restart your computer. You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

Windows then invites you to restart the PC to valide the new network settings.

➢ Click **Yes** to finish the installation of your ADSL modem.

Installation of the modem is now finished.

The PC must be rebooted for the modem to function correctly.

The install program automatically and fully configured the PC to enable immediate connection to Internet; for this it created the **Internet ADSL** icon on the Windows desktop.

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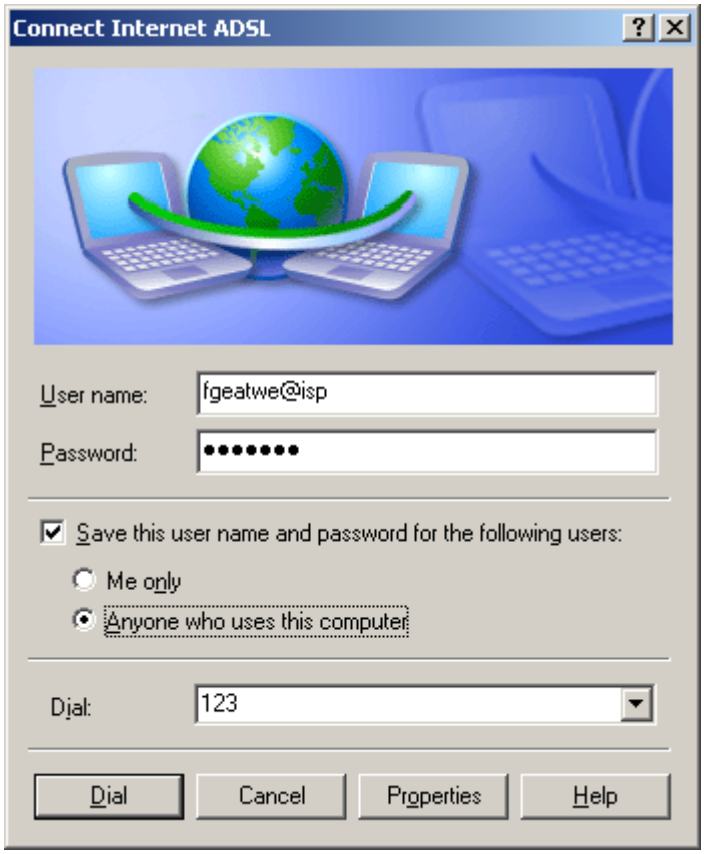
3.2.2 Connecting / disconnecting

3.2.2.1 Connecting to Internet

- The install program created the **Internet ADSL** icon in the Windows XP desktop; double-click on this icon

- double-click on this icon (see **remark**) ; the following screen appears:



- Type in your **User name** and **Password**
- Check the "Save this user name and password for the following users:" box as you like.
- Click on "Dial" to make the connection and access Internet.

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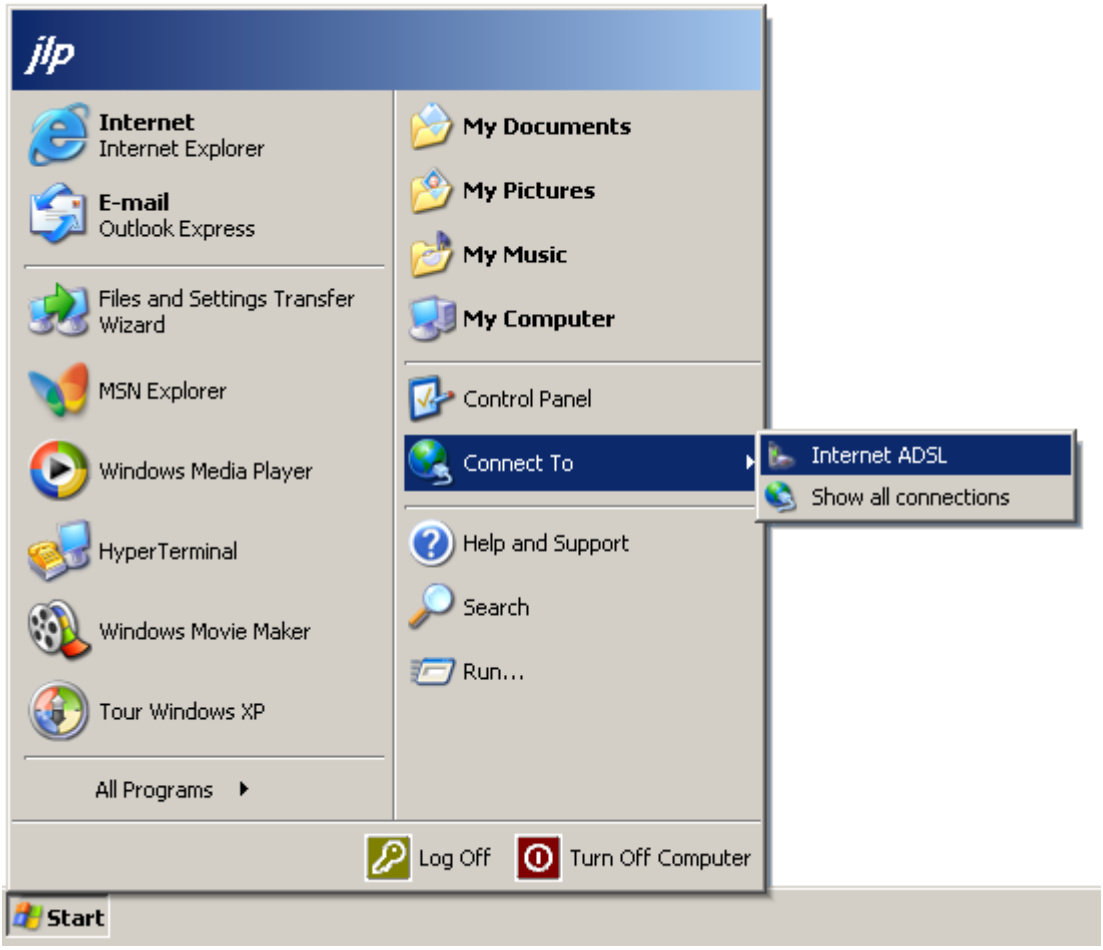
Remark: You can also make the connection to Internet from the "Start" menu of Windows, as shown below (Start / Connect To / Internet ADSL):



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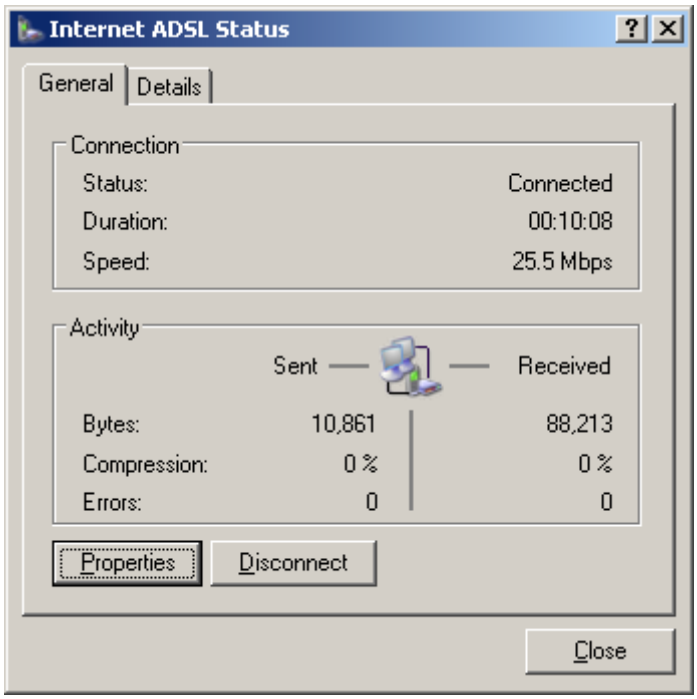
3.2.2.2 Disconnecting

➢ To disconnect, click:

- either on the connection icon in the Windows desktop (**Internet ADSL** icon),
- or on the connection icon in the taskbar.

Remark: In accordance with the configuration of your computer, the connection icon can be hidden into the status bar. To make it appear, click on the arrow as shown below:

Then, the following screen appears:



3.2.2.3 Modem switching off or USB cable disconnecting

To disconnect or unplug a peripheral safely without stopping the PC, Windows XP recommends using the following procedure:

➢ Left-click once on the following icon, in the Windows **Taskbar**, at the bottom right of your desktop.

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A list of the active devices appears:

➢

➢ Then click on **Safely remove SAGEM USB VvBus for Helium**. The SAGEM VVB ATM port pilot will be stopped at the same time.

After a few seconds, Windows displays a confirmation message saying that the pilots are deactivated.

You can now switch off your ADSL modem or unplug the USB cable.

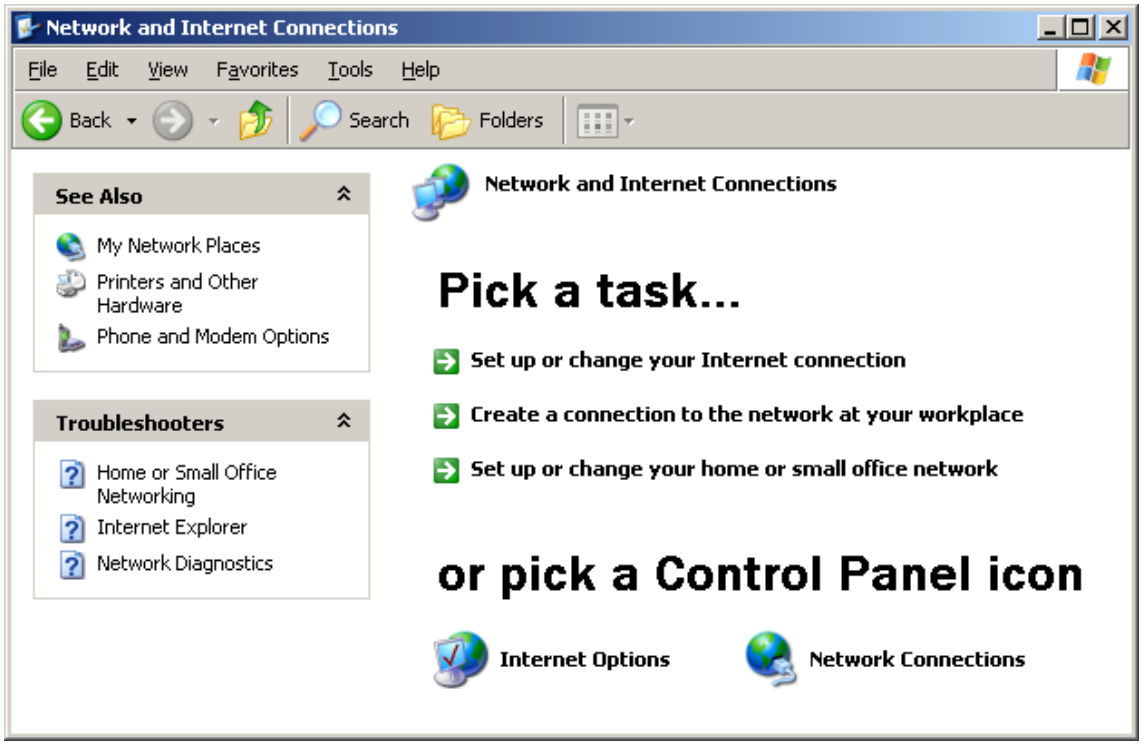
3.2.3 Creating and configuring the ADSL access icon

The install program of the SAGEM modem automatically configured an ATM Permanent Virtual Circuit (PVC) for you; if you want to change the settings of the connection, the following procedures are given for your information:

- configuring the ATM settings,
- configuring the ADSL Internet connection.

3.2.3.1 Configuring the ATM settings

➢ In the **Start** menu, select **Control Panel** then select the **Network and Internet Connections** category ; the following screen appears:


Network and Internet Connections
File Edit View Favorites Tools Help
Back Search Folders
See Also
My Network Places
Printers and Other Hardware
Phone and Modem Options
Troubleshooters
Home or Small Office Networking
Internet Explorer
Network Diagnostics
Network and Internet Connections
Pick a task...
Set up or change your Internet connection
Create a connection to the network at your workplace
Set up or change your home or small office network
or pick a Control Panel icon
Internet Options
Network Connections

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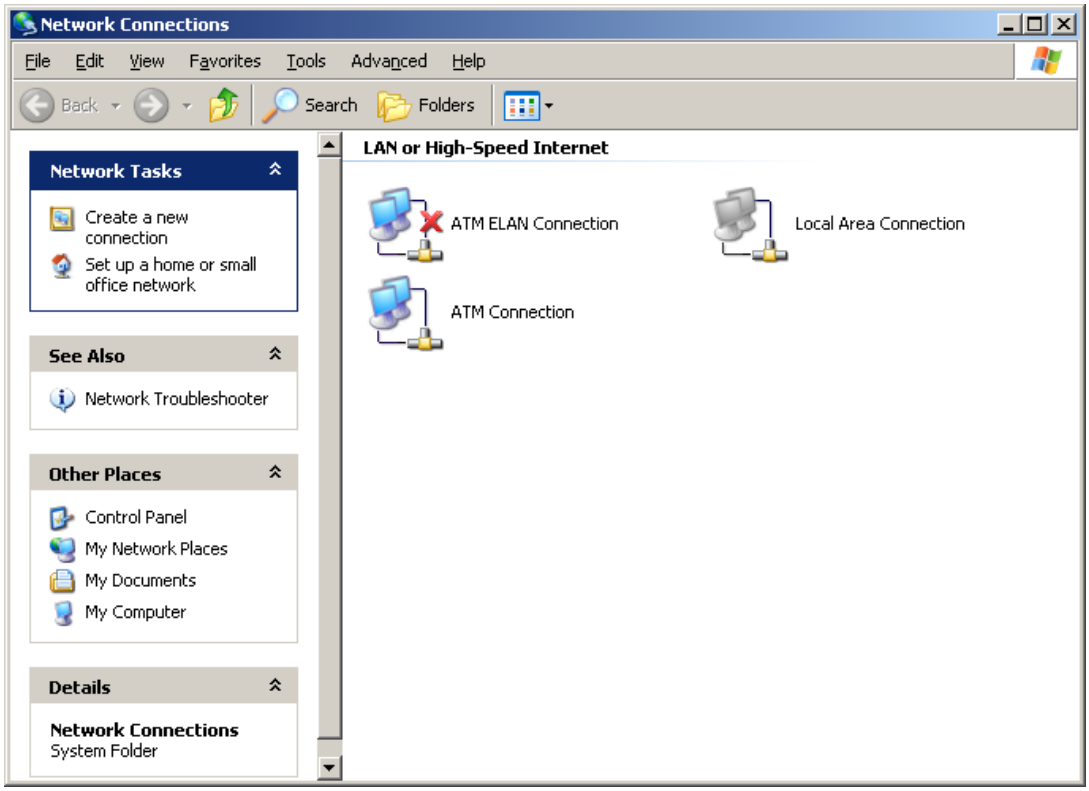
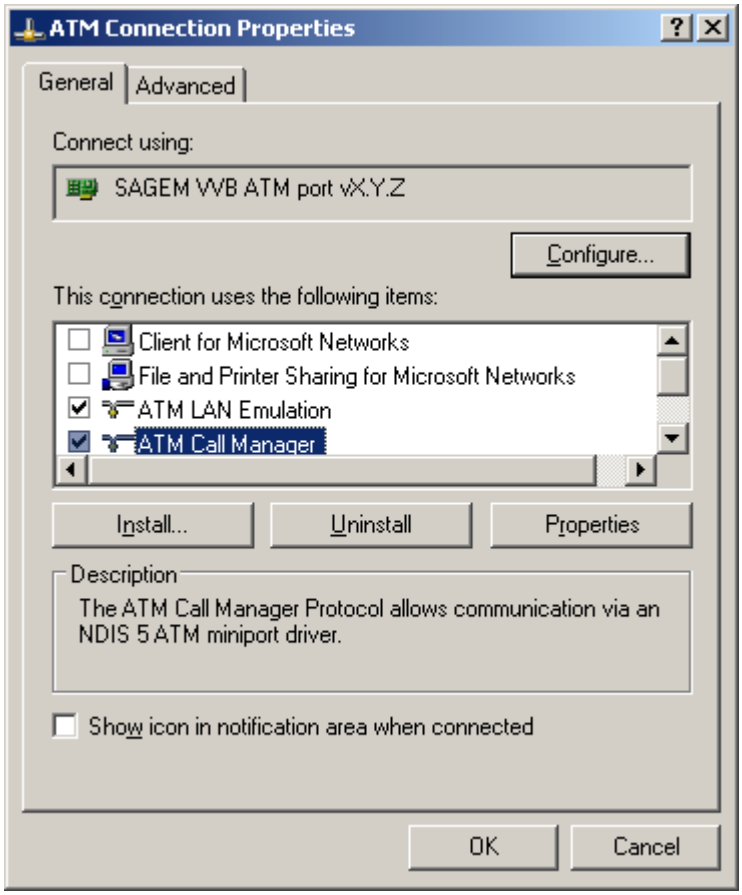
➢ Click on **Network Connections** ; the following screen appears:



➢ Right-click on the mouse on the **ATM Connection** icon and select **Properties** ; the following screen appears:


ATM Connection Properties
General Advanced
Connect using:
SAGEM VVB ATM port vX.Y.Z
Configure...
This connection uses the following items:
Client for Microsoft Networks
File and Printer Sharing for Microsoft Networks
ATM LAN Emulation
ATM Call Manager
Install... Uninstall Properties
Description
The ATM Call Manager Protocol allows communication via an NDIS 5 ATM miniport driver.
Show icon in notification area when connected
OK Cancel

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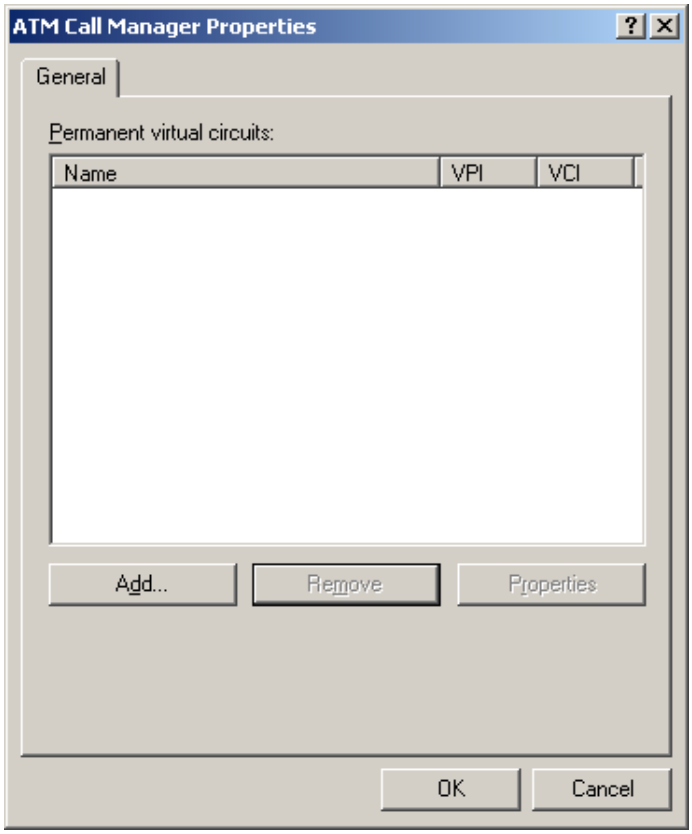
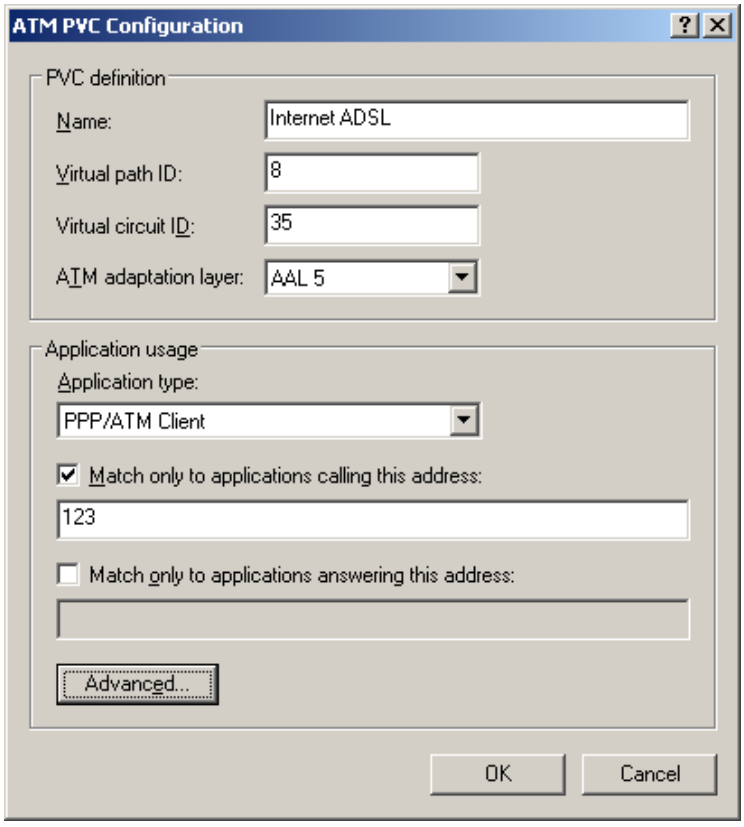
- Select in the **General** panel the **ATM Call Manager** component.
- Click on **Properties** ; the following screen appears:



- Click on **Add** ; the following screen appears:



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- Start by completing the information in the **Application usage** frame:
  - Application type : **PPP/ATM Client,**
  - Check the box **Match only to applications calling this address**; then type in a number (e.g. 123).

    Caution: this number is quite arbitrary, however it is used as the identification to the PVC that you are defining. You have to use it later as "Phone number" when setting the connection to the ADSL line.
- Then complete the information in the **PVC definition** frame:
  - Give a **Name** to the PVC that you are creating,
  - Choose the **Virtual path ID** (VPI)[1],
  - Choose **Virtual circuit ID** (VCI)[2],
  - The **ATM adaptation layer** must be **AAL 5**.
- After creating the PVC, click **OK**.

[1] This information can be obtained from your Internet Access Provider (IAP).
[2] This information can be obtained from your Internet Access Provider (IAP).

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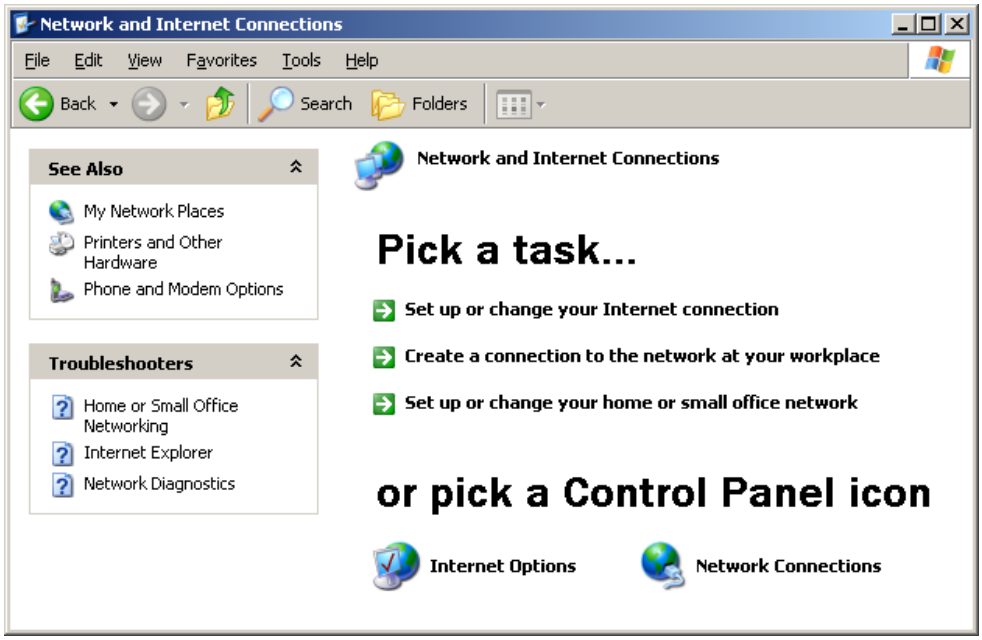
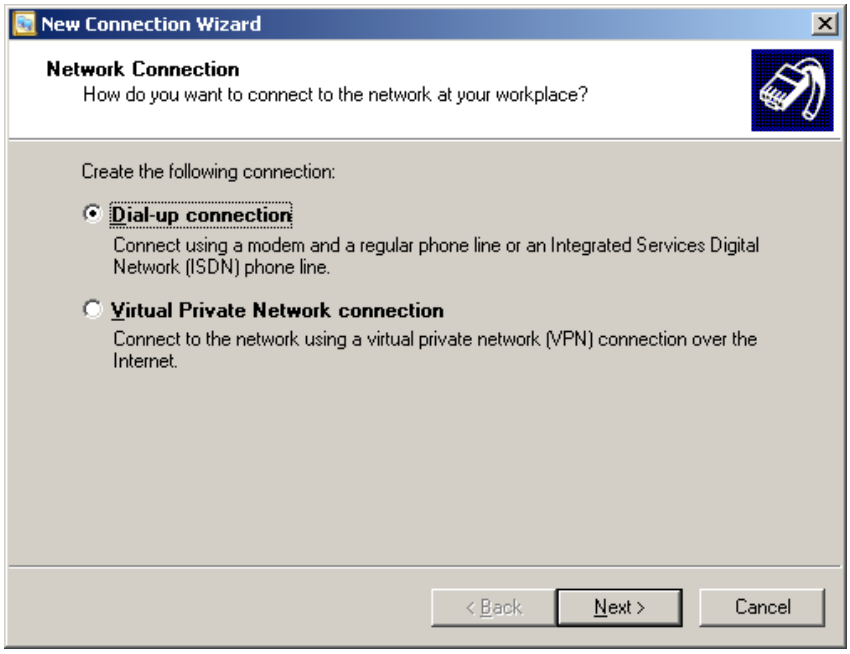
3.2.3.2 Configuring the ADSL Internet connection

➢ In the **Start** menu, select **Control Panel** then select the **Network and Internet Connections** category ; the following screen appears:


Network and Internet Connections
File Edit View Favorites Tools Help
Back Search Folders
See Also
My Network Places
Printers and Other Hardware
Phone and Modem Options
Troubleshooters
Home or Small Office Networking
Internet Explorer
Network Diagnostics
Network and Internet Connections
Pick a task...
Set up or change your Internet connection
Create a connection to the network at your workplace
Set up or change your home or small office network
or pick a Control Panel icon
Internet Options
Network Connections

➢ Click on the botton which represents an arrow and corresponds to the **Create a connection to the network at your workplace** task ; the following screen (see remark):


New Connection Wizard
Network Connection
How do you want to connect to the network at your workplace?
Create the following connection:
Dial-up connection
Connect using a modem and a regular phone line or an Integrated Services Digital Network (ISDN) phone line.
Virtual Private Network connection
Connect to the network using a virtual private network (VPN) connection over the Internet.
< Back
Next >
Cancel

Remark: Some useless and inadequate screens may appear. To close them without taking their content into account, proceeds as follows:

If the **Location Information** screen appears : type in any figure in the field **What area code are you in now ?**, then click on **OK** to confirm your choice.

If the **Phone and modem Options** screen appears, click on **Cancel**.

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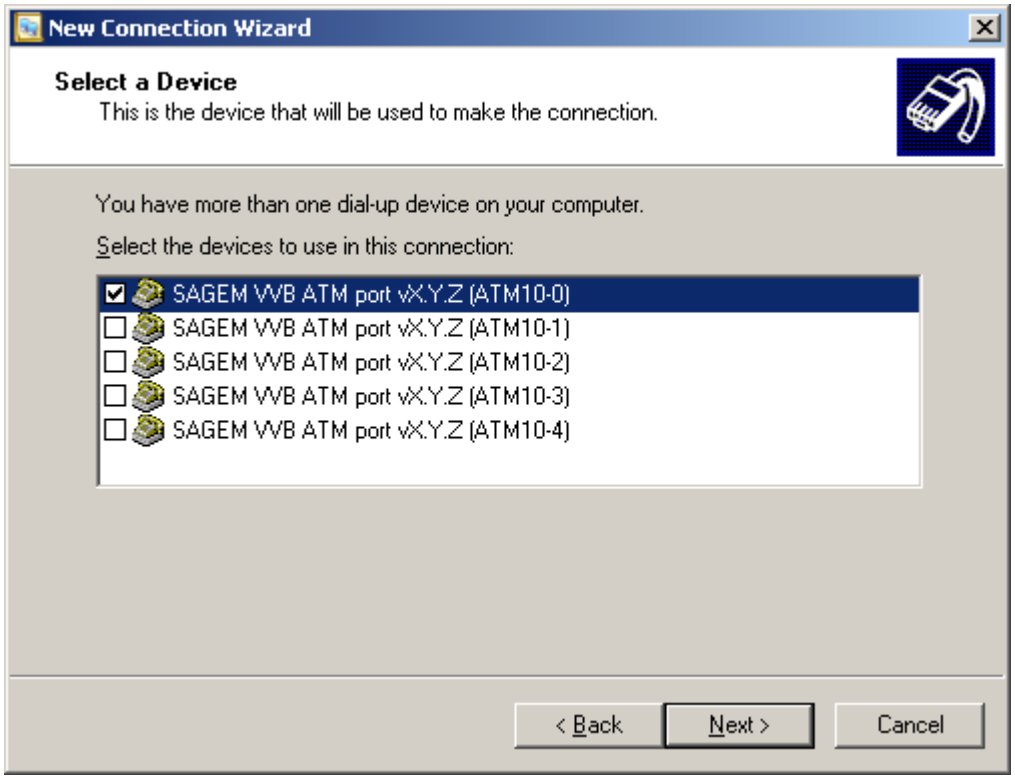
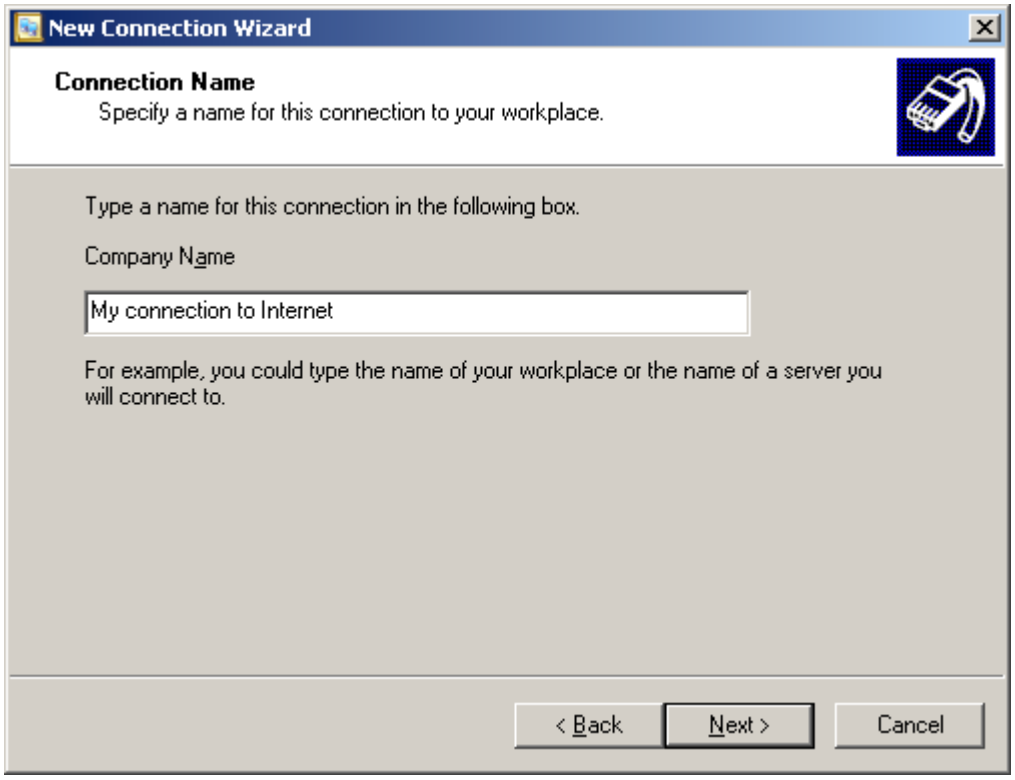
➢ Select **Dial-up connection** then click on **Next** ; the following screen appears:


New Connection Wizard
Select a Device
This is the device that will be used to make the connection.
You have more than one dial-up device on your computer.
Select the devices to use in this connection:
SAGEM VVB ATM port vX.Y.Z (ATM10-0)
SAGEM VVB ATM port vX.Y.Z (ATM10-1)
SAGEM VVB ATM port vX.Y.Z (ATM10-2)
SAGEM VVB ATM port vX.Y.Z (ATM10-3)
SAGEM VVB ATM port vX.Y.Z (ATM10-4)
< Back
Next >
Cancel

➢ Check only the appropriate box to select the **SAGEM VVB ATM port vXYZ (ATMx-0)** device then click on Next ; the following screen appears :


New Connection Wizard
Connection Name
Specify a name for this connection to your workplace.
Type a name for this connection in the following box.
Company Name
My connection to Internet
For example, you could type the name of your workplace or the name of a server you will connect to.
< Back
Next >
Cancel

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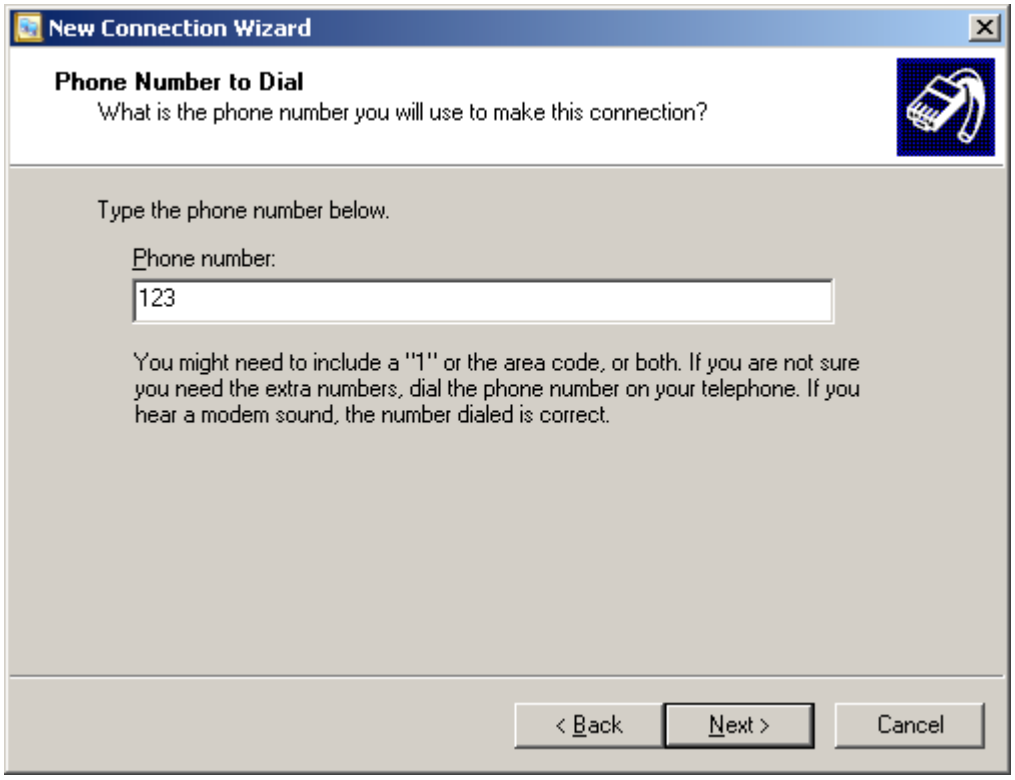
➢ Type the name of the new connection then click on **Next** ; the following screen appears :


New Connection Wizard
Phone Number to Dial
What is the phone number you will use to make this connection?
Type the phone number below.
Phone number:
123
You might need to include a "1" or the area code, or both. If you are not sure you need the extra numbers, dial the phone number on your telephone. If you hear a modem sound, the number dialed is correct.
< Back
Next >
Cancel

➢ To use the PVC created automatically by the modem install program, type **123** in the **Phone number** edit field.

Caution: this number is very important! It does not actually correspond to a telephone number but to the PVC identification. If you want to use a PVC that you have just created, you should type here the same number that you entered in the dialog box *Match only to applications calling this address* when setting the PVC. *(see 3.2.3.1/*Configuring the ATM settings*).*

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- Click on Next ; the following screen appears:

New Connection Wizard
Completing the New Connection Wizard
You have successfully completed the steps needed to create the following connection:
My connection to Internet
• Share with all users of this computer
The connection will be saved in the Network Connections folder.
Add a shortcut to this connection to my desktop
To create the connection and close this wizard, click Finish.
< Back
Finish
Cancel

The name of the connection created (**My connection to Internet** displayed on the screen) lets you easily identify the connection's access provider in case you have several connections on your PC.

- Check the **Add a shortcut to this connection to my desktop** box.
- Click **Finish** for Windows to create a new icon with the name of the connection previously entered.

The shortcut below lets you connect to the Internet directly from the Windows home page.

To make an Internet connection, refer to paragraph 3.2.2.

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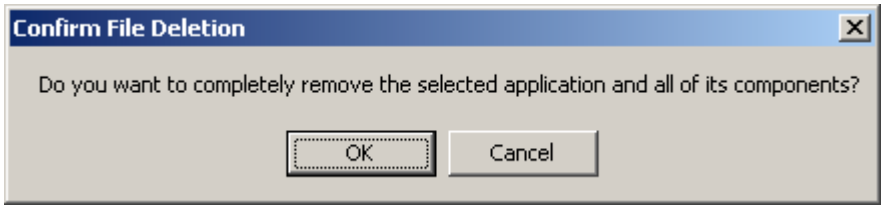
3.2.4 Uninstalling the modem

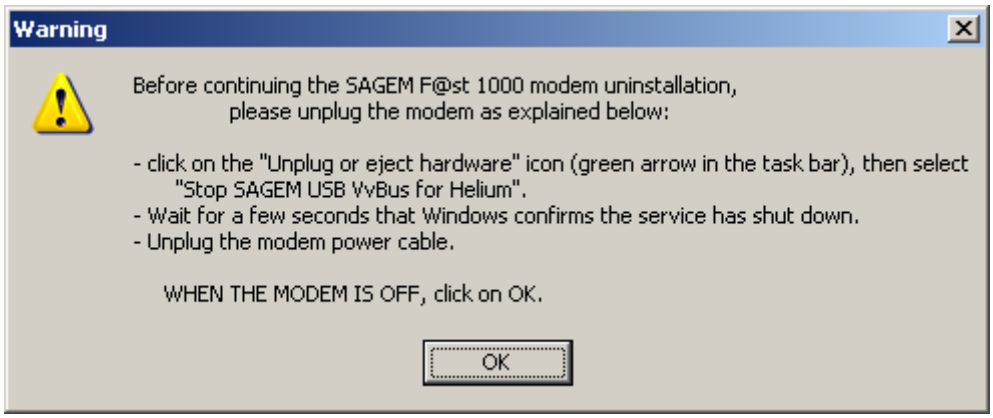
To uninstall the modem:

➢ In the Windows XP **Start** menu, select **All Programs** then **SAGEM F@st 1000** and at last **F@st 1000 uninstallation**.

The following screen appears:



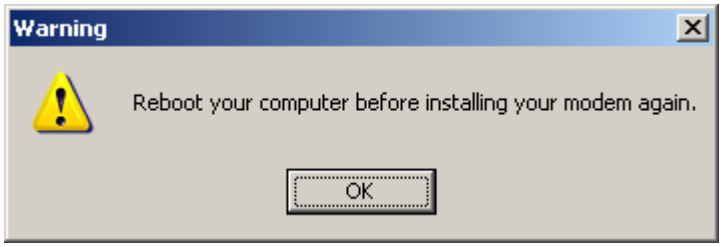
➢ Click on **OK** then disconnect the modem following the instructions below:


Warning
Before continuing the SAGEM F@st 1000 modem uninstallation,
please unplug the modem as explained below:
- click on the "Unplug or eject hardware" icon (green arrow in the task bar), then select "Stop SAGEM USB VvBus for Helium".
- Wait for a few seconds that Windows confirms the service has shut down.
- Unplug the modem power cable.
WHEN THE MODEM IS OFF, click on OK.
OK

➢ Click on **OK** to finish the uninstallation of the modem.

➢ The following warning message is displayed.

WARNING: Now, you must reboot your computer if you want to install your modem again.



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3.3 Installing for Windows 2000 professional

For Windows 2000 professional, the installation of the SAGEM F@st™ 1000 modem is carried out according to the following process :

- Installing the modem drivers,
- Configuring the ATM settings.

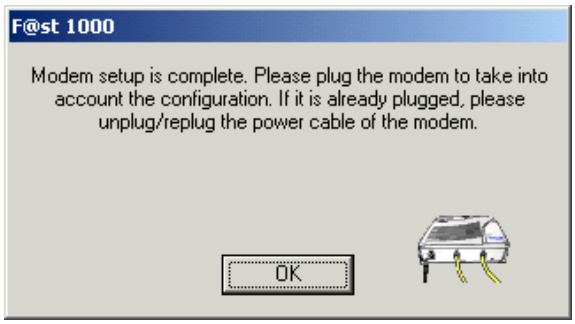
3.3.1 Installing the modem

- Switch off the modem if it is powered by unplugging the power supply cable either on the modem side (connector marked **PWR**), or on the mains side.
- Switch on the PC and wait for the complete start-up of Windows 2000.
- Insert the installation CD-ROM; the home page appears after a few seconds.

  If this screen does not appear automatically proceed as follows:

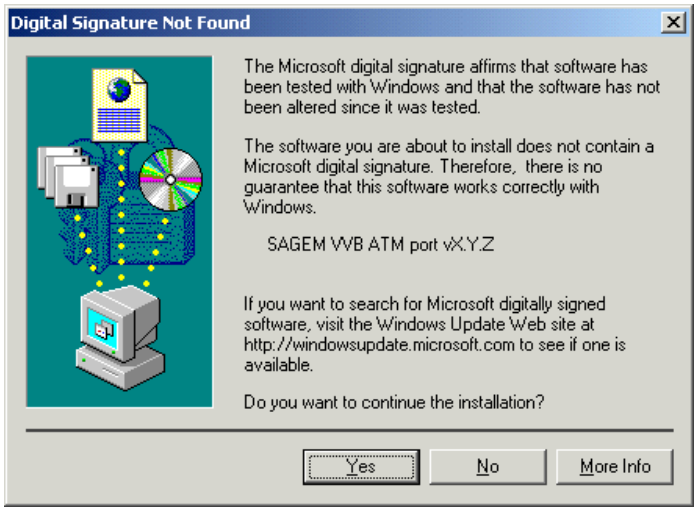
  From the **Start** menu select **Run** then enter **<Drive letter for the CD-ROM>:\English\Setup.exe**.
- Select **Modem setup** on this page.

The install program copies the files to the PC's hard drive, then displays the following message:


F@st 1000
Modem setup is complete. Please plug the modem to take into account the configuration. If it is already plugged, please unplug/replug the power cable of the modem.
OK

- Click **OK** and connect the modem to the PC with the USB cable, and to the telephone line (ADSL) with the line cable.
- Connect the power supply cable to the modem (connector marked **PWR**), then connect the mains adapter to power up the SAGEM F@st™ 1000.

Windows installs the drivers then displays the following message:


Digital Signature Not Found
The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.
The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.
SAGEM WB ATM port vX.Y.Z
If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.
Do you want to continue the installation?
Yes
No
More Info

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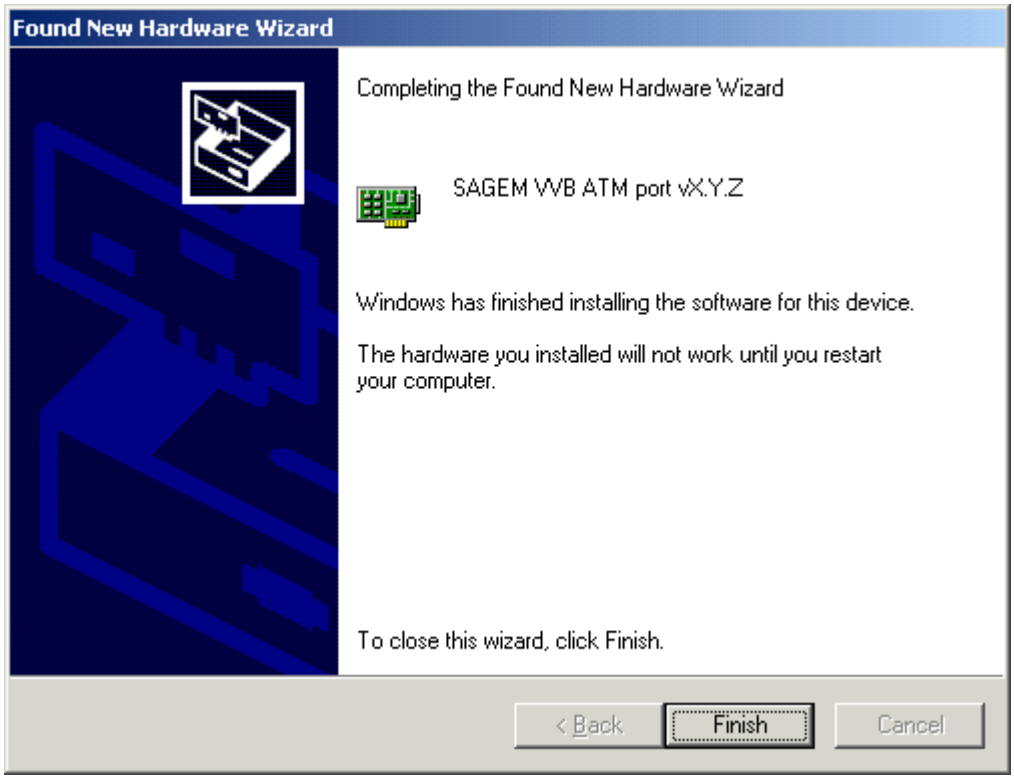
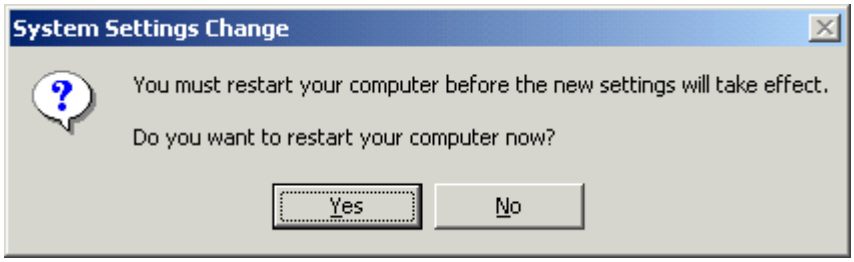
➢ Click Yes to continue the installation.

The following screen appears:


Found New Hardware Wizard
Completing the Found New Hardware Wizard
SAGEM VVB ATM port vX.Y.Z
Windows has finished installing the software for this device.
The hardware you installed will not work until you restart your computer.
To close this wizard, click Finish.
< Back
Finish
Cancel

Windows then asks if you want to restart the PC to validate the new network settings.


System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

➢ Click **Yes** to finish the installation of your ADSL modem.

Installation of the modem is now finished.

The PC must be rebooted for the modem to function correctly.

The install program automatically and fully configured the PC to enable immediate connection to Internet; for this it created the **ADSL connection** icon on the Windows desktop.

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3.3.2 Connecting / disconnecting

3.3.2.1 Connecting to Internet

- The install program created the **ADSL Internet** icon in the Windows 2000 desktop; double-click on this icon.

If not.

- In the Windows 2000 **Desktop**, select the **My Network Places** icon then right-click and select **Properties**.
- In the window that appears, double-click on the **ADSL Internet** icon.

The following screen appears:

- Type in your **User name** and **Password**.
- Click **Dial** to make the connection and access Internet.

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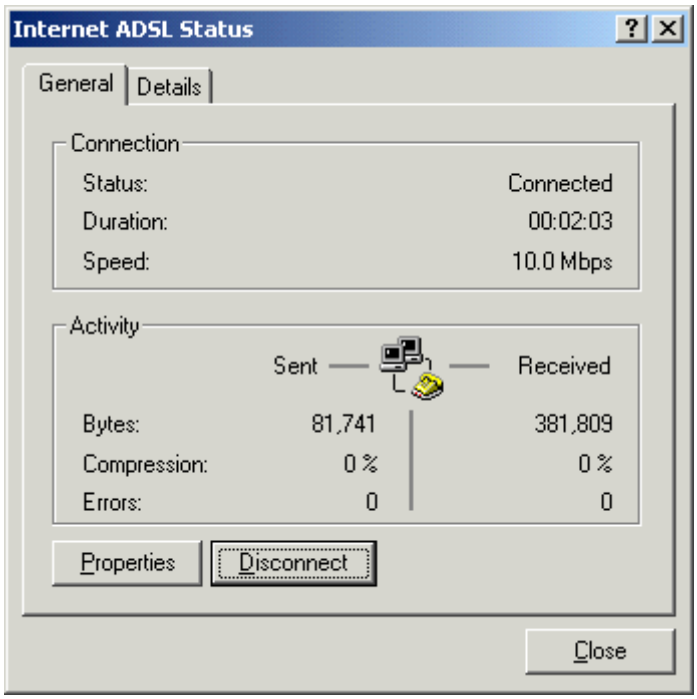
3.3.2.2 Disconnecting

➢ To disconnect, click on the connection icon (in **Dial-Up Networking** window or in the **Taskbar**), and choose **Disconnect**.

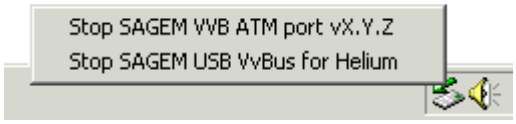


3.3.2.3 Modem switching off or USB cable disconnecting

To disconnect or unplug a peripheral safely without stopping the PC, Windows 2000 recommends using the following procedure.

➢ Left-click once on the following icon, in the Windows **Taskbar**, at the bottom right of your desktop.

A list of the active devices appears:



➢ Then left-click on **Stop SAGEM USB VvBus for Helium**. The SAGEM VVB ATM port pilot will be stopped at the same time.

After a few seconds, Windows displays a confirmation message saying that the pilots are deactivated.

You can now switch off your ADSL modem or unplug the USB cable.

If there is no stop peripheral icon in the Windows status bar, use Windows' Hardware Wizard (**Start /Settings/Control Panel** menu, then **Add /Remove hardware**). The wizard then lets you add a new icon to your Taskbar.

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3.3.3 Creating and configuring the ADSL access icon

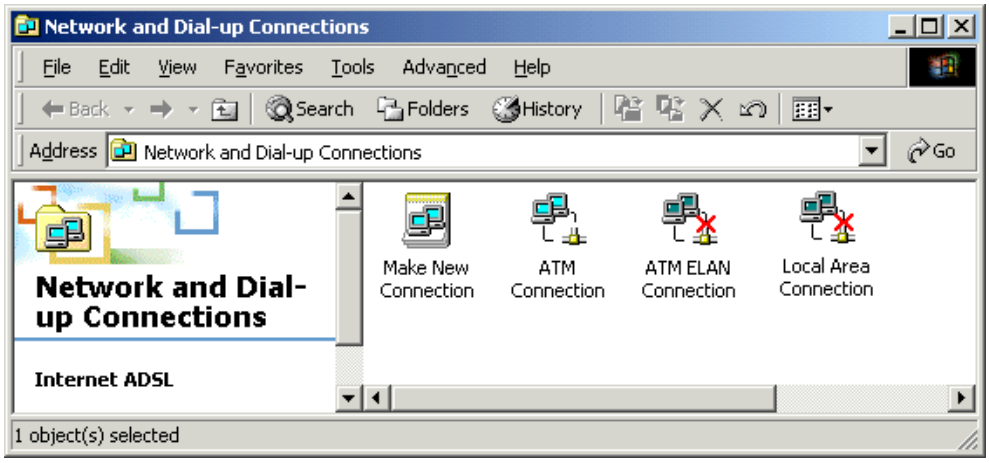
The install program of the SAGEM modem automatically configured an ATM Permanent Virtual Circuit (PVC) for you; if you want to change the settings of the connection, the following procedures are given for your information:

- configuring the ATM settings,
- configuring the ADSL Internet connection.

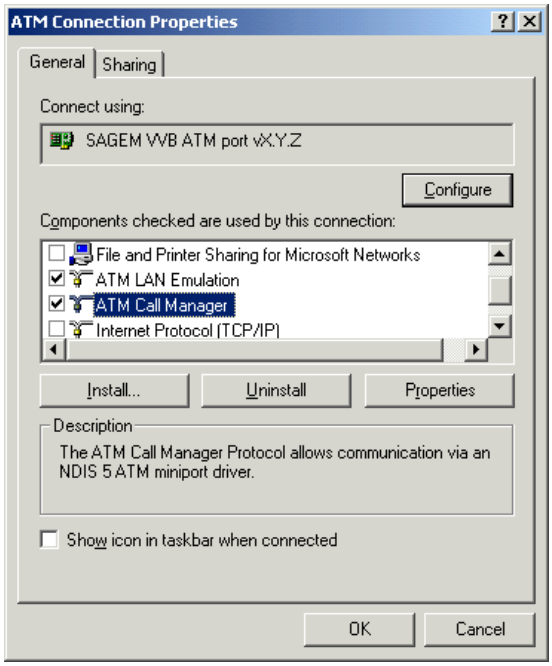
3.3.3.1 Configuring the ATM settings

➢ On the Windows 2000 **Desktop**, select the **My Network Places** icon.

➢ Right-click and select **Properties**.



- In the opened window, select the **ATM Connection** icon.
- Right-click and select **Properties**.


ATM Connection Properties
General Sharing
Connect using:
SAGEM VVB ATM port vX.Y.Z
Configure
Components checked are used by this connection:
File and Printer Sharing for Microsoft Networks
ATM LAN Emulation
ATM Call Manager
Internet Protocol (TCP/IP)
Install... Uninstall Properties
Description
The ATM Call Manager Protocol allows communication via an NDIS 5 ATM miniport driver.
Show icon in taskbar when connected
OK Cancel

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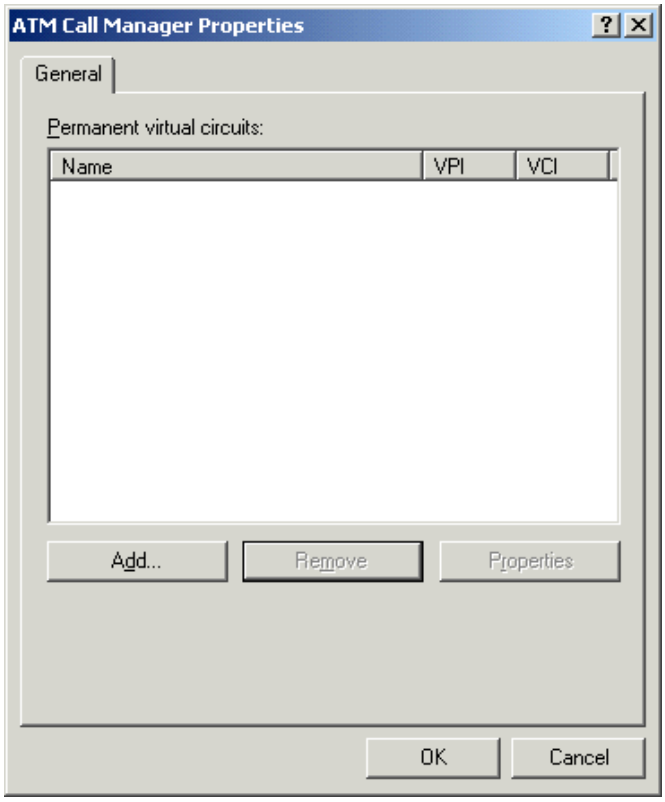
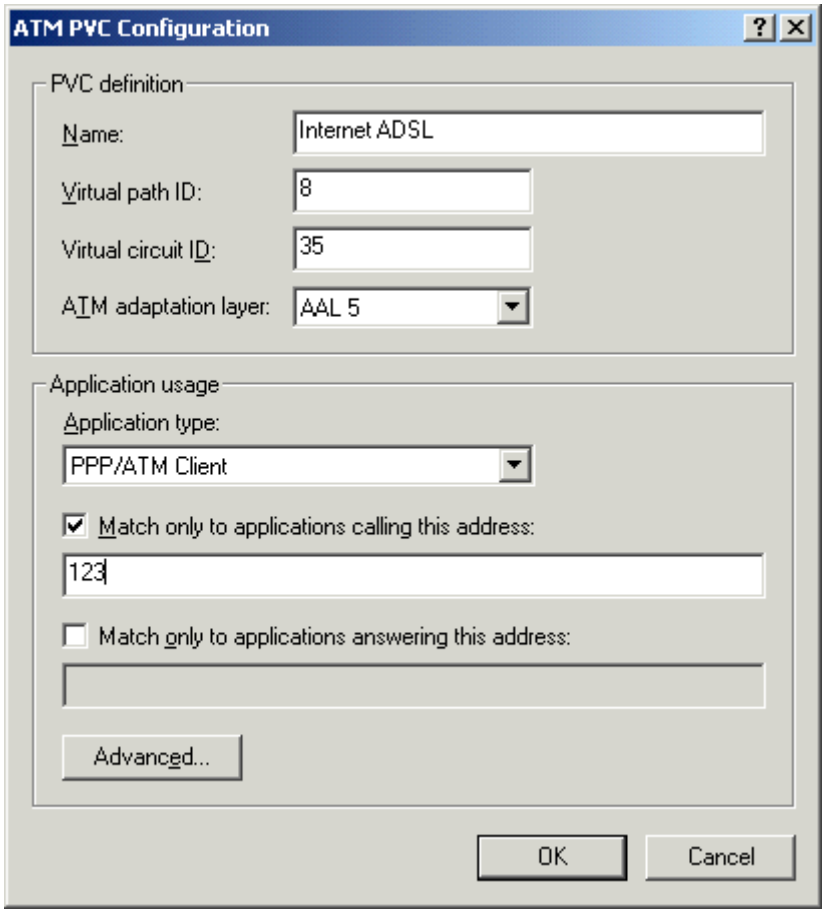
➢ Select **ATM call manager** and click on **Properties**.



➢ Click **Add**. The following window appears:



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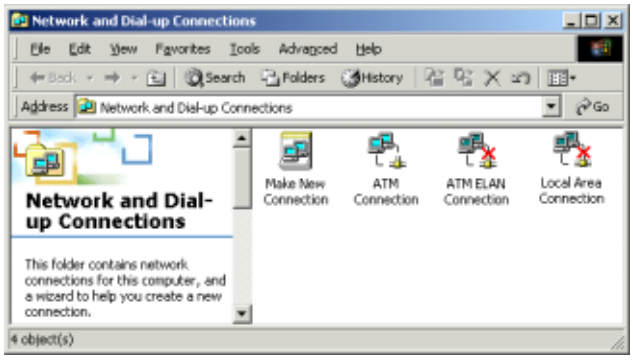
- Start by completing the information in the **Application usage** frame:
  - Application type : **PPP/ATM Client,**
  - Check the box **Match only to applications calling this address**; then type in a number (e.g. 123).

    Caution: this number is quite arbitrary, however it is used as the identification to the PVC that you are defining. You have to use it later as "Phone number" when setting the connection to the ADSL line.
- Then complete the information in the **PVC definition** frame:
  - Give a **Name** to the PVC that you are creating,
  - Choose the **Virtual path ID** (VPI)[3],
  - Choose **Virtual circuit ID** (VCI)[4],
  - The **ATM adaptation layer** must be **AAL 5**.
- After creating the PVC, click **OK**.

3.3.3.2 Configuring the ADSL Internet connection

- On the Windows 2000 **Desktop**, select the **My Network Places** icon and right-click on the mouse. Select **Properties**. The following window appears:


Network and Dial-up Connections
File Edit View Favorites Tools Advanced Help
Search Folders History
Address Network and Dial-up Connections
Go
Network and Dial-up Connections
This folder contains network connections for this computer, and a wizard to help you create a new connection.
Make New Connection
ATM Connection
ATM ELAN Connection
Local Area Connection
4 object(s)

- In this window, double-click on the **Make New Connection** icon. The wizard welcome screen appears:

Network Connection Wizard
Welcome to the Network Connection Wizard
Using this wizard you can create a connection to other computers and networks, enabling applications such as e-mail, Web browsing, file sharing, and printing.
To continue, click Next.
< Back
Next >
Cancel

[3] This information can be obtained from your Internet Access Provider (IAP).
[4] This information can be obtained from your Internet Access Provider (IAP).

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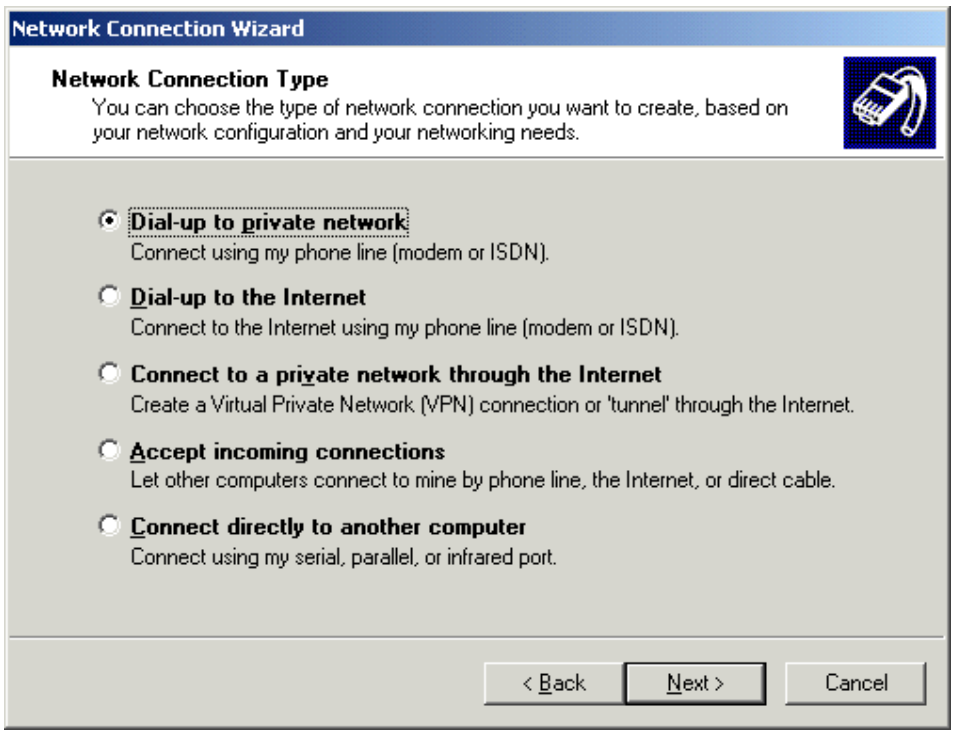
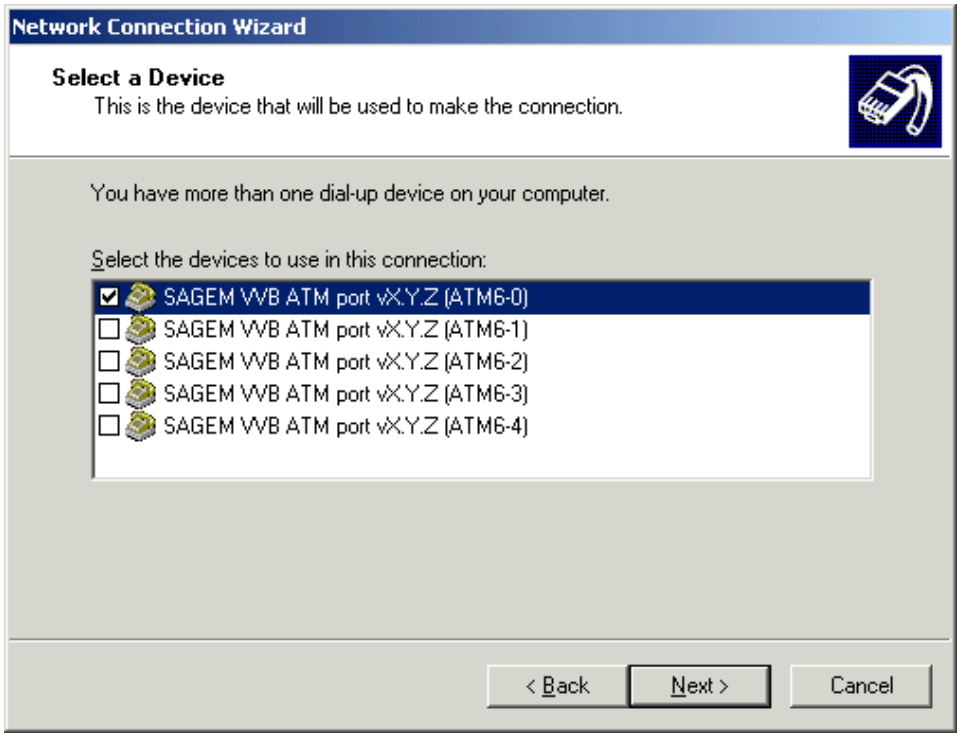
According to the PC configuration, the first time you create a connection, Windows may ask you to define the general dialing settings (regional code, external line prefix). This screen has no effect on the ADSL connection but must be completed to access the following screens.

➢ To configure your connection, click **Next**. The following screen appears:


Network Connection Wizard
Network Connection Type
You can choose the type of network connection you want to create, based on your network configuration and your networking needs.
Dial-up to private network
Connect using my phone line (modem or ISDN).
Dial-up to the Internet
Connect to the Internet using my phone line (modem or ISDN).
Connect to a private network through the Internet
Create a Virtual Private Network (VPN) connection or 'tunnel' through the Internet.
Accept incoming connections
Let other computers connect to mine by phone line, the Internet, or direct cable.
Connect directly to another computer
Connect using my serial, parallel, or infrared port.
< Back
Next >
Cancel

➢ Select **Dial-up to private network**, then click **Next** to show the following screen:


Network Connection Wizard
Select a Device
This is the device that will be used to make the connection.
You have more than one dial-up device on your computer.
Select the devices to use in this connection:
SAGEM VVB ATM port vX.Y.Z (ATM6-0)
SAGEM VVB ATM port vX.Y.Z (ATM6-1)
SAGEM VVB ATM port vX.Y.Z (ATM6-2)
SAGEM VVB ATM port vX.Y.Z (ATM6-3)
SAGEM VVB ATM port vX.Y.Z (ATM6-4)
< Back
Next >
Cancel

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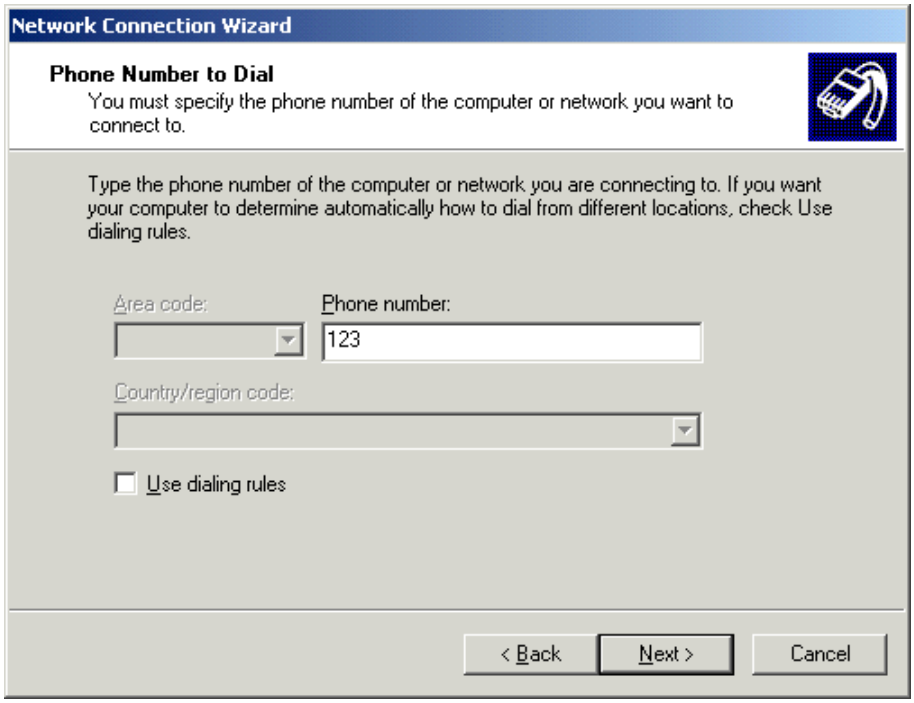
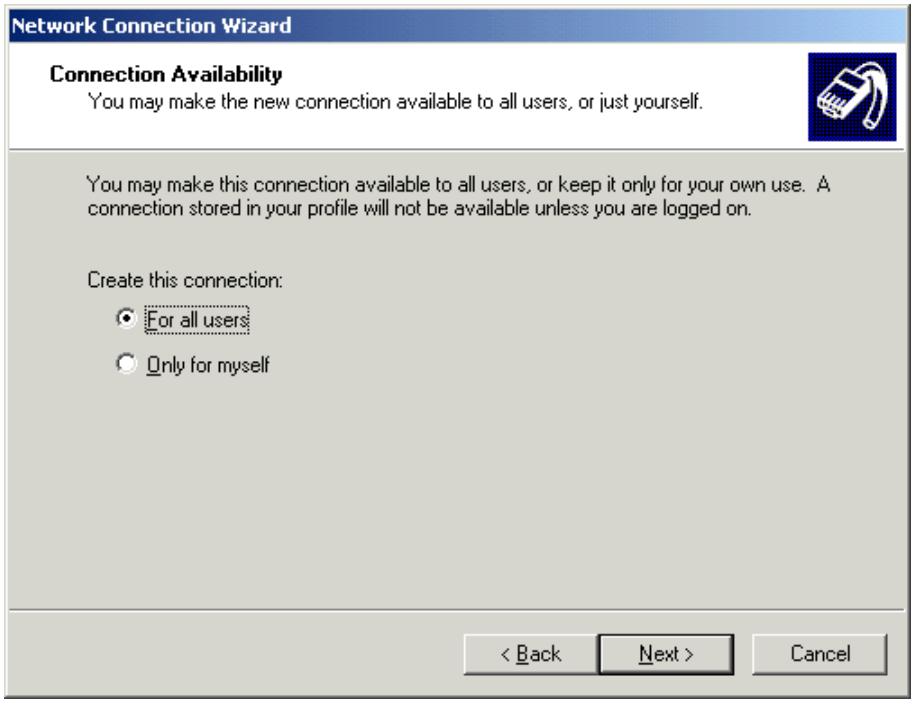
- Make sure that the **SAGEM WB ATM port vX.Y.ZZ (ATMx-0)** device is selected, then click **Next**.


Network Connection Wizard
Phone Number to Dial
You must specify the phone number of the computer or network you want to connect to.
Type the phone number of the computer or network you are connecting to. If you want your computer to determine automatically how to dial from different locations, check Use dialing rules.
Area code:
Phone number:
123
Country/region code:
Use dialing rules
< Back
Next >
Cancel

- To use the PVC created automatically by the modem install program, type **123** in the **Phone number** edit field.

  Caution: this number is very important! It does not actually correspond to a telephone number but to the PVC identification. If you want to use a PVC that you have just created, you should type here the same number that you entered in the dialog box *Match only to applications calling this address* when setting the PVC. *(see a. Configuring the ATM settings)*.

- Click **Next**. The following screen appears:


Network Connection Wizard
Connection Availability
You may make the new connection available to all users, or just yourself.
You may make this connection available to all users, or keep it only for your own use. A connection stored in your profile will not be available unless you are logged on.
Create this connection:
For all users
Only for myself
< Back
Next >
Cancel

This window lets you make the connection that you have just created available to all users of the PC.

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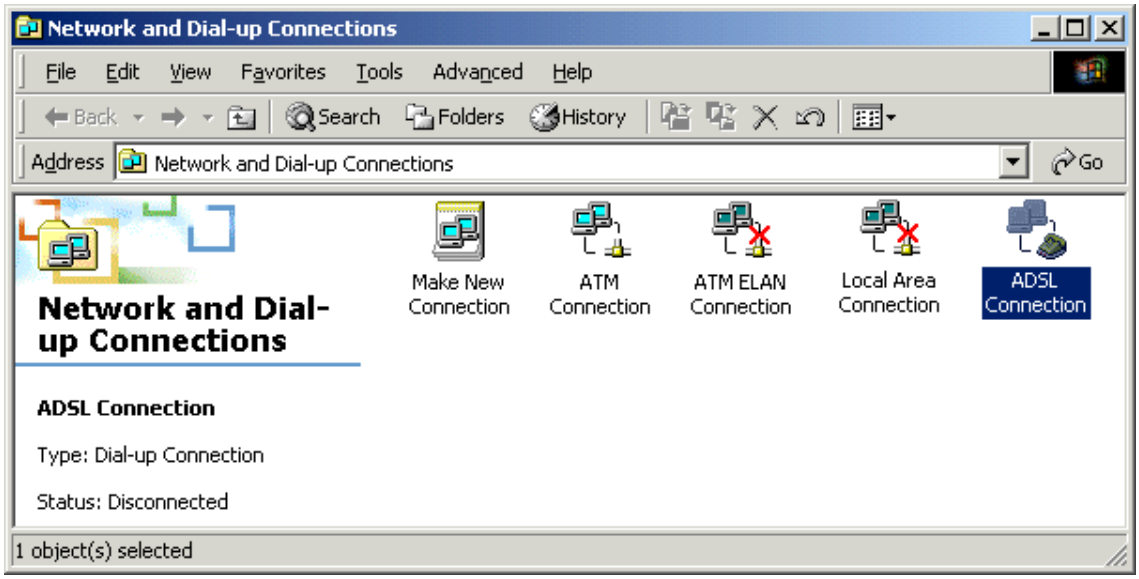
➢ Click **Next** to enter the name of your new Internet connection.

Network Connection Wizard
Completing the Network Connection Wizard
Type the name you want to use for this connection:
ADSL Connection
To create this connection and save it in the Network and Dial-up Connections folder, click Finish.
To edit this connection in the Network and Dial-up Connections folder, select it, click File, and then click Properties.
Add a shortcut to my desktop
< Back
Finish
Cancel

This name lets you easily identify the connection's access provider in case you have several connections on your PC.

➢ Also check the **Add a shortcut to my Desktop** box. The shortcut below lets you connect to the Internet directly from the Windows home page.

➢ Click **Finish** for Windows to create a new icon with the name of the connection previously entered.



Windows then asks you to make an Internet connection.

Refer to paragraph 3.3.2.

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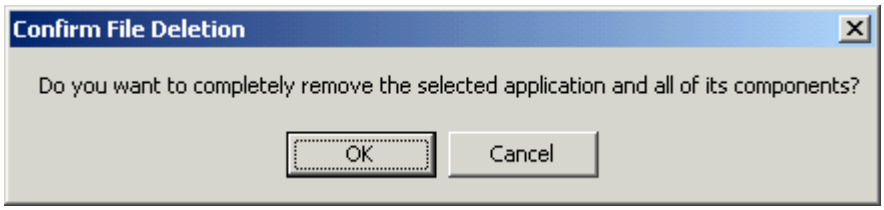
3.3.4 Uninstalling the modem

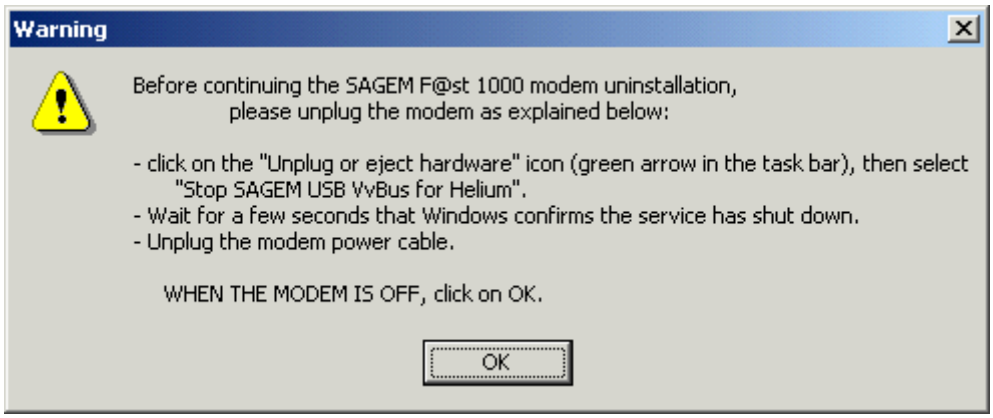
To uninstall the modem:

- In the Windows 2000 **Start** menu, select **Programs** then **SAGEM F@st 1000** and at last **"Uninstall F@st 1000"**.

  The following screen appears:

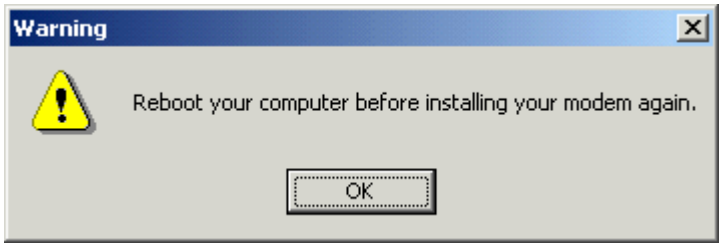


- Click on **OK** then disconnect the modem following the instructions below:


Warning
Before continuing the SAGEM F@st 1000 modem uninstallation,
please unplug the modem as explained below:
- click on the "Unplug or eject hardware" icon (green arrow in the task bar), then select "Stop SAGEM USB VvBus for Helium".
- Wait for a few seconds that Windows confirms the service has shut down.
- Unplug the modem power cable.
WHEN THE MODEM IS OFF, click on OK.
OK

- Click on **OK** to finish the uninstallation of the modem.
- The following warning message is displayed.

WARNING: Now, you must reboot your computer if you want to install your modem again.



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3.4 Installing for Windows Millennium

For Windows Millennium, installation of the SAGEM F@st™ 1000 modem is carried out according to the following process:

- Installing the modem drivers,
- Configuring a new dial-up connection.

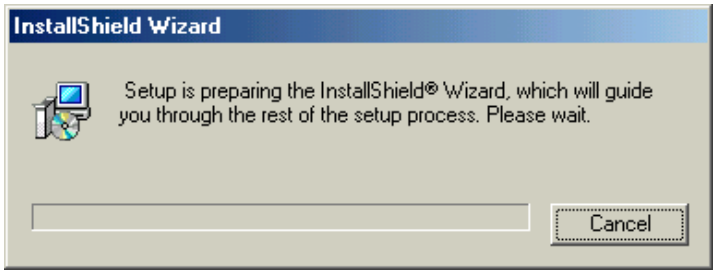
3.4.1 Installing the modem

- Switch off the modem if it is powered by unplugging the power supply cable either on the modem side (connector marked **PWR**), or on the mains side.
- Switch on the PC and wait for the complete startup of Windows ME.
- Insert the installation CD-ROM; the welcome page appears after a few seconds.

  If this screen does not appear automatically proceed as follows:

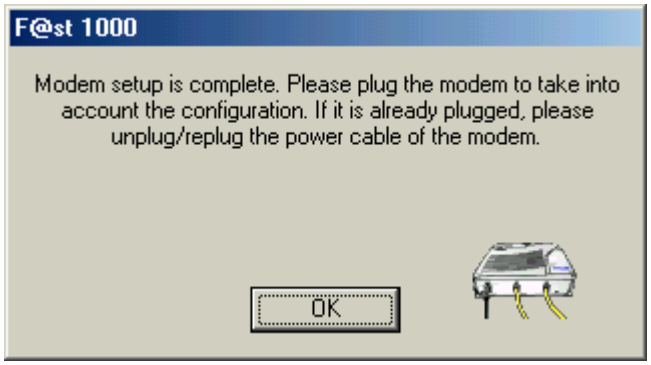
  From the **Start** menu select **Run** then enter **<Drive letter for the CD-ROM>:\English\Setup.exe**.
- Select **Modem setup** on this page.

The following screen appears:


InstallShield Wizard
Setup is preparing the InstallShield® Wizard, which will guide you through the rest of the setup process. Please wait.
Cancel

The install program copies the files necessary for the installation onto the PC's hard drive.

- Make the modem connections when the application prompts you.


F@st 1000
Modem setup is complete. Please plug the modem to take into account the configuration. If it is already plugged, please unplug/replug the power cable of the modem.
OK

- Connect the modem to the PC with the USB cable, and to the telephone line (ADSL) with the line cable.
- Connect the power supply cable to the modem (connector marked **PWR**), then connect the mains adapter to power up the SAGEM F@st™ 1000.

After connecting the modem, the PC installs the drivers ADSLBOOT, VVBusUSB and VVBATM.

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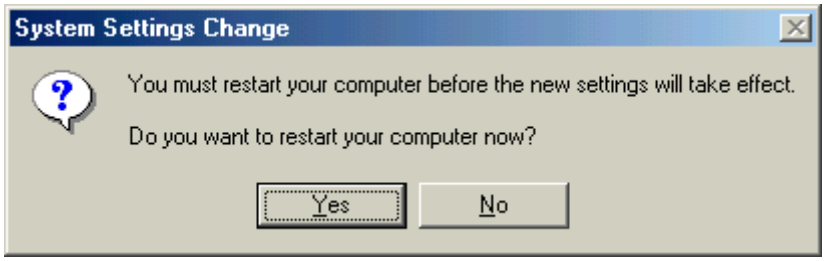
Windows then asks if you want to restart the PC to validate the new network settings.


System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

➢ Click **Yes** to finish the installation of your ADSL modem.

The PC must be rebooted for the modem to function correctly.

A correctly set Internet connection icon (IP and ATM settings) is automatically created in the **Dial-Up Networking** group, as well as a shortcut to this icon on the Windows ME desktop (see 3.4.2).

Installation of the modem is now finished.

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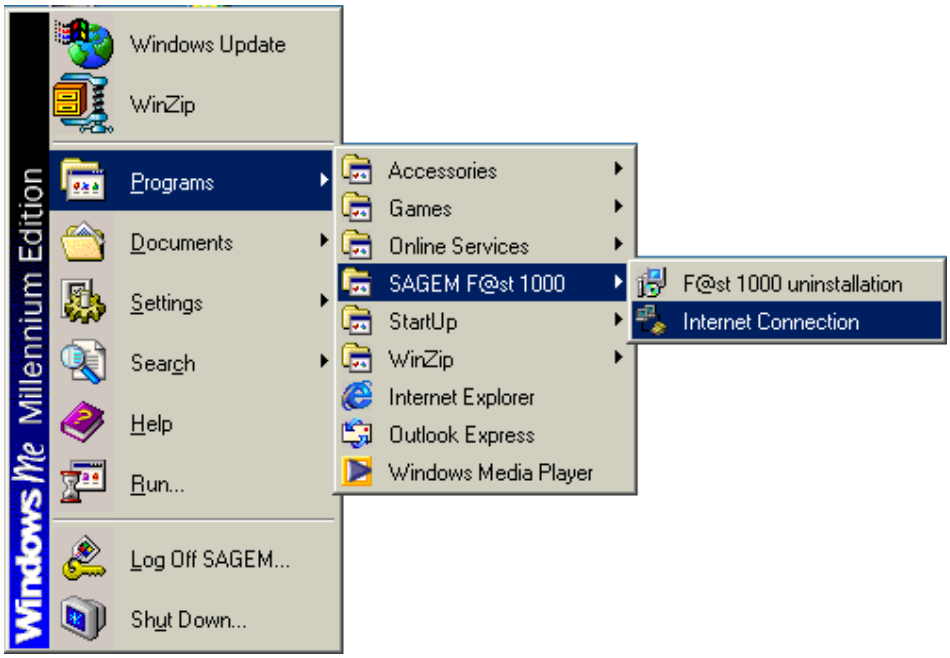
3.4.2 Connecting to / disconnecting from Internet

The install program created:

- a shortcut on the **ADSL Internet** icon in the Windows ME desktop.

- the **SAGEM F@st 1000** group in the Windows ME **Start/Programs** menu,



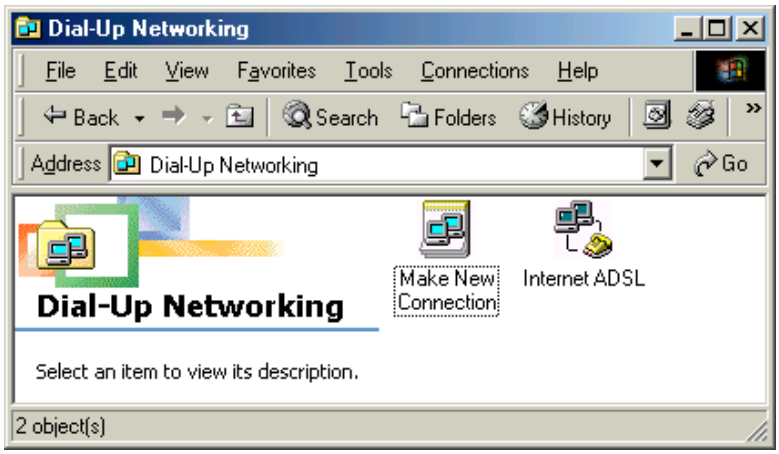
or for experts, an Internet connection icon in the **Dial-Up Networking** group; to find it:

➢ double-click on the Windows ME **My computer** icon, then **Control panel**, and then **Dial-Up Networking**.

Windows displays an opening screen that lets you create a modem network connection.

➢ Click on **Cancel**.

The following screen appears:



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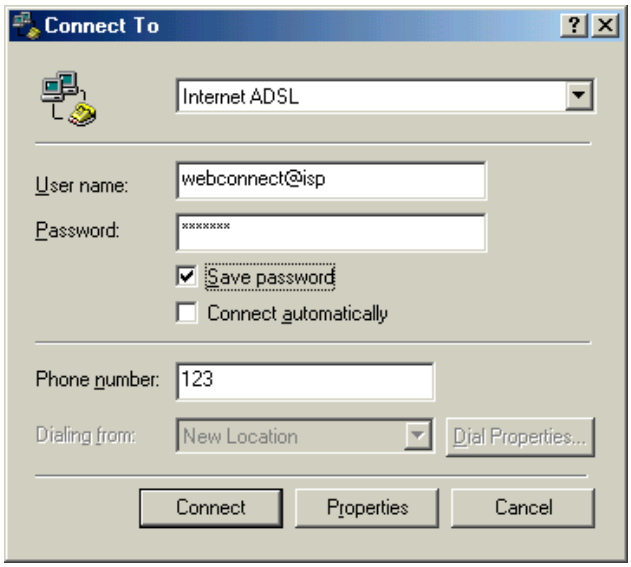
Connecting

To connect to Internet, you can either:

- double-click on the **ADSL Internet** shortcut located on the Windows desktop,
- or double-click on the **ADSL Internet** icon of the **Dial-Up Networking** group.
- or click on **SAGEM F@st 1000** then **Internet Connection** in the **Start/Programs** menu.

The following screen appears:



In this window,

- Enter your **User name** (obtained from your Internet Access Provider),
- Enter your **Password** (obtained from your Internet Access Provider),
- Check the box **Save password** if you want,
- Then click the **Connect** button.

The connection proceeds: the modem's DATA indicator light blinks. After a few seconds, the connection is made.

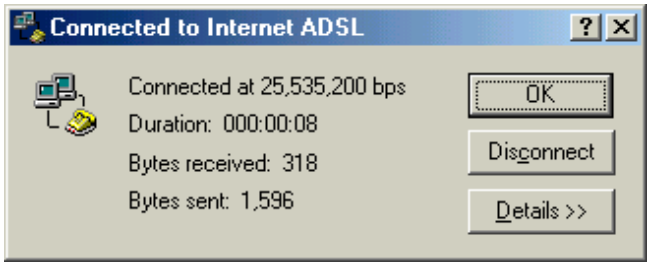
You can then run the WEB browser of your choice (e.g. Internet Explorer 5) to explore the Internet.

Disconnecting

To disconnect, you can either:

- double-click on the shortcut located on the Windows desktop,
- or double-click on the **ADSL Internet** icon of the **Dial-Up Networking** group.

The following screen appears:



- Click the **Disconnect** button.

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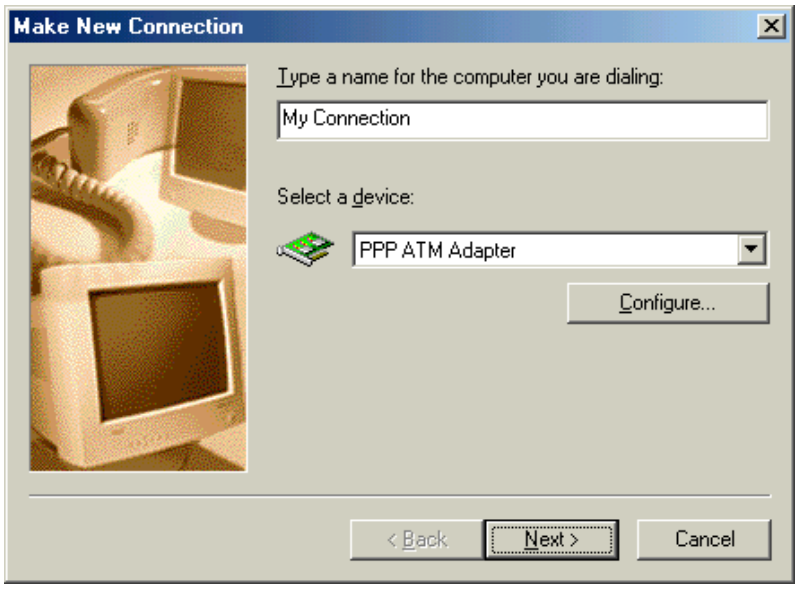
3.4.3 Configuring a new dial-up connection

The install program created and configured a connection icon to the ADSL (**My computer** - **Control panel** - **Dial-Up Networking**).

If you want to configure other connections or change certain ATM settings:

➢ click on **Make New Connection** in the **Dial-Up Networking** window.

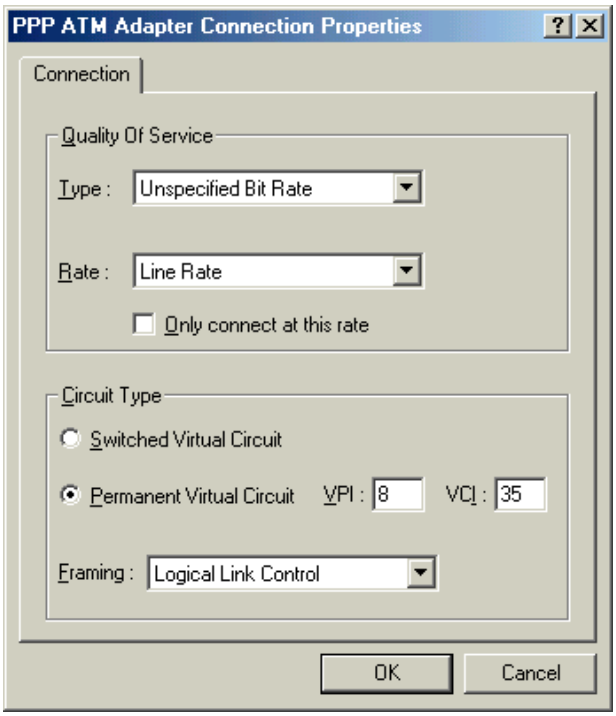


➢ Enter the name of the connection (e.g. **My connection**).

➢ Select the device **PPP ATM Adapter**.

➢ Click on **Configure** below the **PPP ATM Adapter** device.

The following screen appears:



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- Choose the options:

  In **Quality Of Service**:

  Type: **Unspecified Bit Rate**,

  Rate: **Line Rate**.

  In **Circuit Type**:

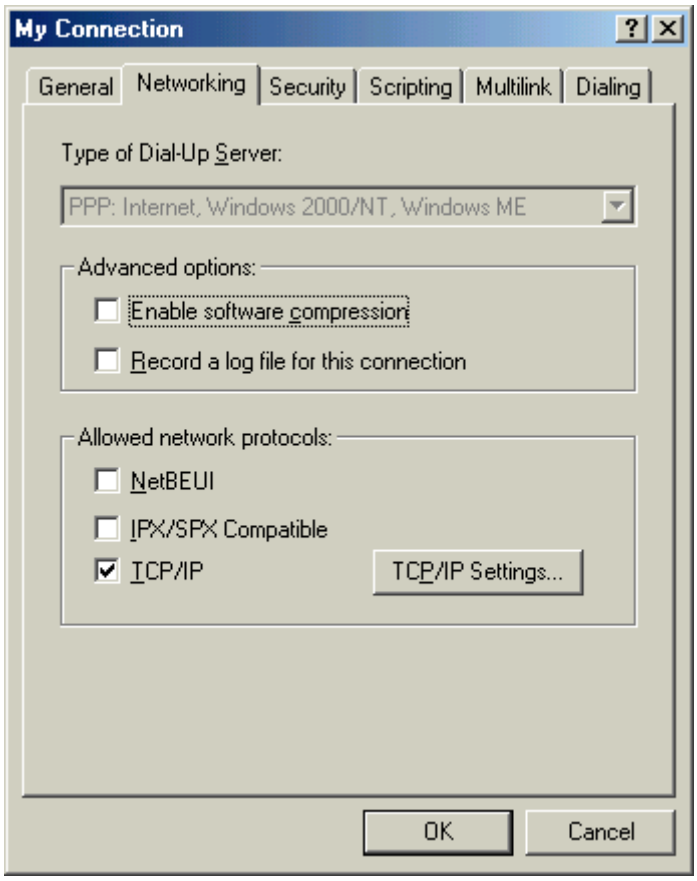
  Permanent virtual circuit: Virtual Path Identifier (VPI) [5] and Virtual Circuit Identifier (VCI) [3],

  Framing: **Logical Link Control**.

- Then click **OK**, and **Next**.
- Enter any area code and any phone number.
- Click **Next**, then **Finish**.

On the icon for the newly created connection:

- Right-click and choose **Properties**.
- Select the **Networking** tab.



- Choose the options:

  In **Advanced options**:

  - disable **software compression**.

  In **Allowed network protocols**:

  - disable the protocols NetBEUI and IPX/SPX,
  - enable the protocol TCP/IP.

5

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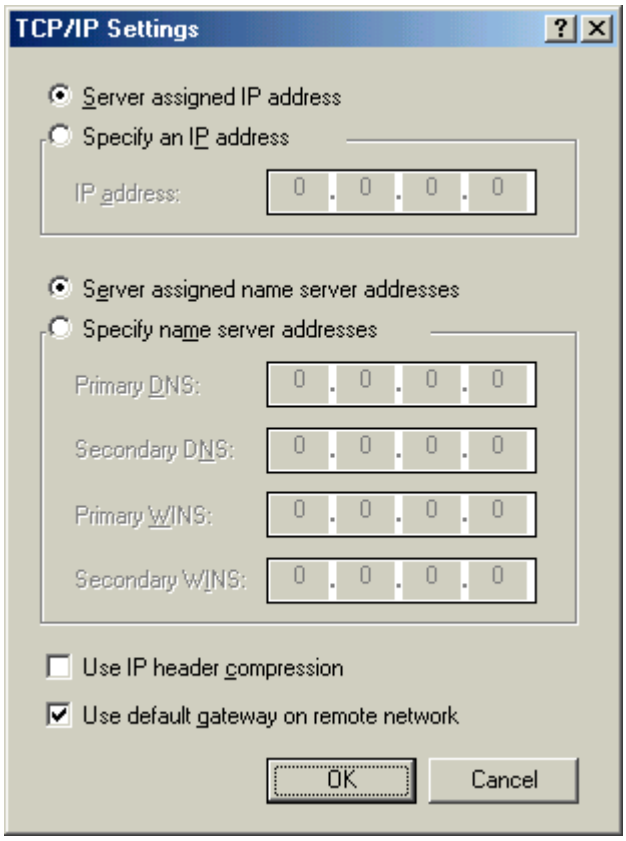
➢ Click on the **TCP/IP settings** button:



➢ Choose the options:
- enable **Server assigned IP address**,
- enable DNS addresses **Server assigned name server addresses**,
- disable **IP header compression**,
- enable **Use default gateway on remote network**.

➢ Then click **OK** twice until the new connection properties closes.

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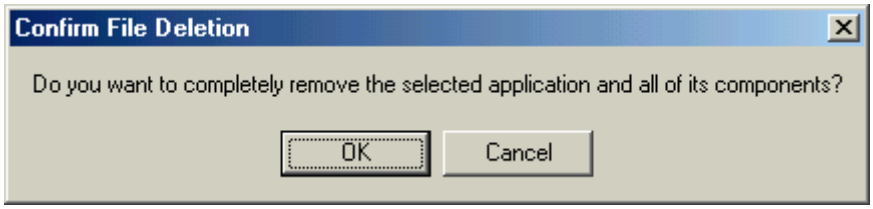
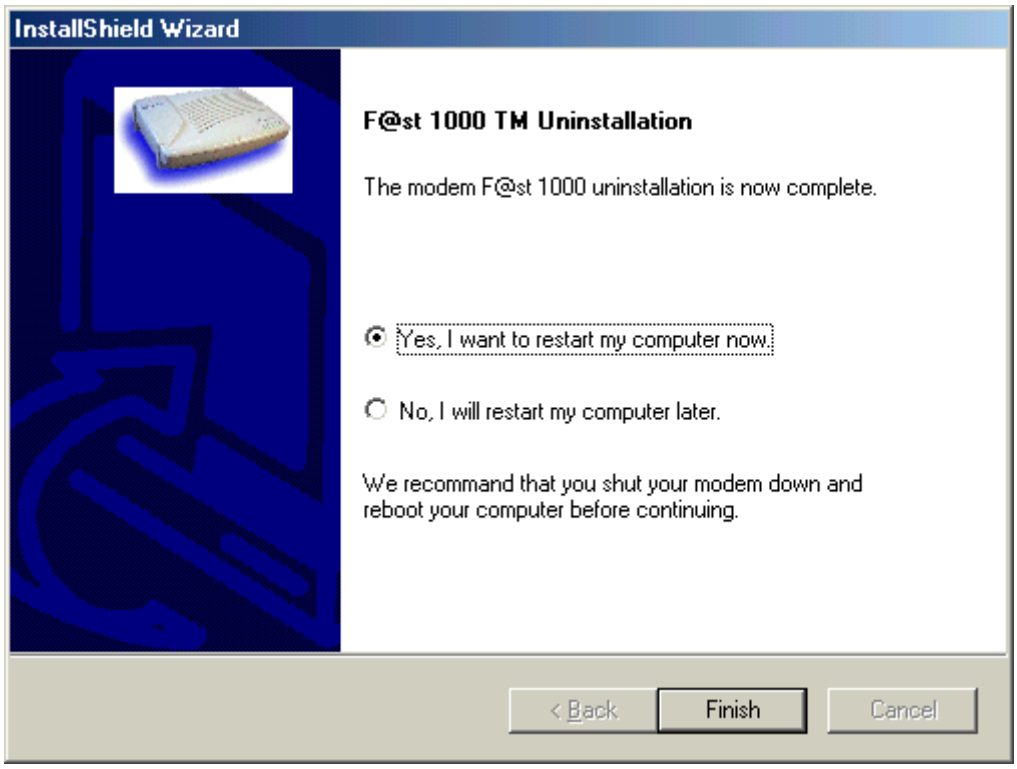
3.4.4 Uninstalling the modem

- Switch off the modem by unplugging the power supply cable either on modem side (connector marked **PWR**), or on the mains side.
- In the Windows ME **Start** menu, select **Programs** then **SAGEM F@st 1000** and finally **Uninstall F@st 1000**.
- Confirm the removal when Windows prompts you.



- Click **OK**; the following screen appears:


InstallShield Wizard
F@st 1000 TM Uninstallation
The modem F@st 1000 uninstallation is now complete.
Yes, I want to restart my computer now.
No, I will restart my computer later.
We recommand that you shut your modem down and reboot your computer before continuing.
< Back
Finish
Cancel

WARNING: you must switch off the modem before rebooting the PC

The modem is uninstalled.

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3.5 Installing for Windows 98 First Edition

For Windows 98 First Edition, installation of the SAGEM F@st™ 1000 modem is carried out according to the following process:

- Installing the modem drivers,
- Configuring a new dial-up connection.

3.5.1 Installing the modem

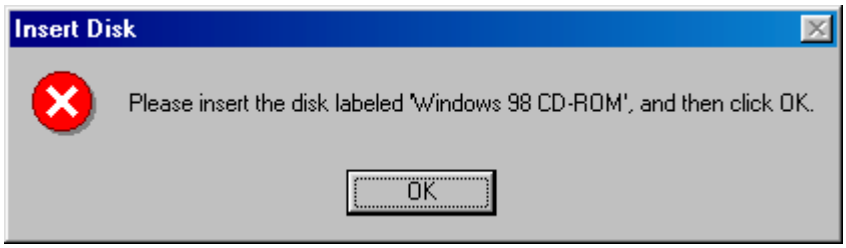
- Switch off the modem if it is powered by unplugging the power supply cable either on the modem side (connector marked **PWR**), or on the mains side.
- Switch on the PC and wait for the complete start-up of Windows 98FE.
- Insert the installation CD-ROM; the welcome page appears after a few seconds.

  If this screen does not appear automatically proceed as follows:

  From the **Start** menu select **Run** then enter **<Drive letter for the CD-ROM>:\English\Setup.exe**.
- Select **Modem setup** on the welcome page.

The install program checks the software configuration of Windows.

- Insert the Windows 98FE CD-ROM when Windows asks for it:



- Click on **OK** to continue.

When all Windows components are installed on your PC, the following screen appears:

F@st 1000
Modem setup is complete. Please plug the modem to take into account the configuration. If it is already plugged, please unplug/replug the power cable of the modem.
OK

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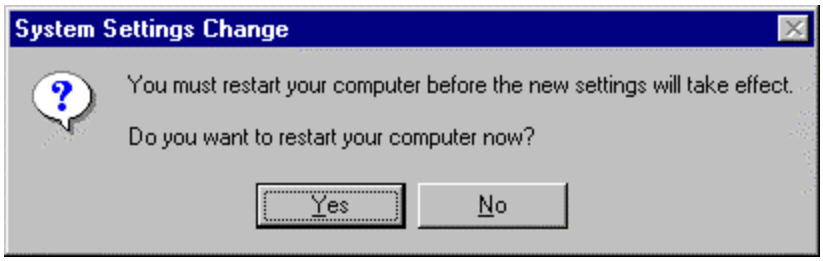
- Connect the modem to the PC with the USB cable, and to the telephone line (ADSL) with the line cable.
- Connect the power supply cable to the modem (connector marked **PWR**), then connect the mains adapter to power up the SAGEM F@st™ 1000.

After connecting the modem, the PC installs the drivers ADSLBOOT, VVBusUSB and VVBETH.

- Insert the Windows 98FE CD-ROM if Windows asks for it.

Windows then asks if you want to restart the PC to validate the new network settings.


System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

- Click **Yes** to finish the installation of your ADSL modem.

The PC must be rebooted for the modem to function correctly.

A correctly set Internet connection icon (IP and ATM settings) is automatically created in the **Dial-Up Networking** group, as well as a shortcut on this icon on the Windows 98FE desktop and a command line in the **Start/Programs** menu (see 3.5.2).

The install program installed on the PC a modem configuration application (called CnFast).

In order to operate, the PC must specify the IP address of a VPN server. In fact this is the modem which has, by default, the address 10.0.0.138. If this address is incompatible with the IP configuration of the PC, the install program offers to modify the IP address of the modem for the user and automatically runs the CnFast application.

The install program installs a virtual Ethernet card on the PC so that this communicates with the modem. The PC is set as DHCP client and the modem as DHCP server. By default the modem attributes to the PC the address 10.0.0.139.

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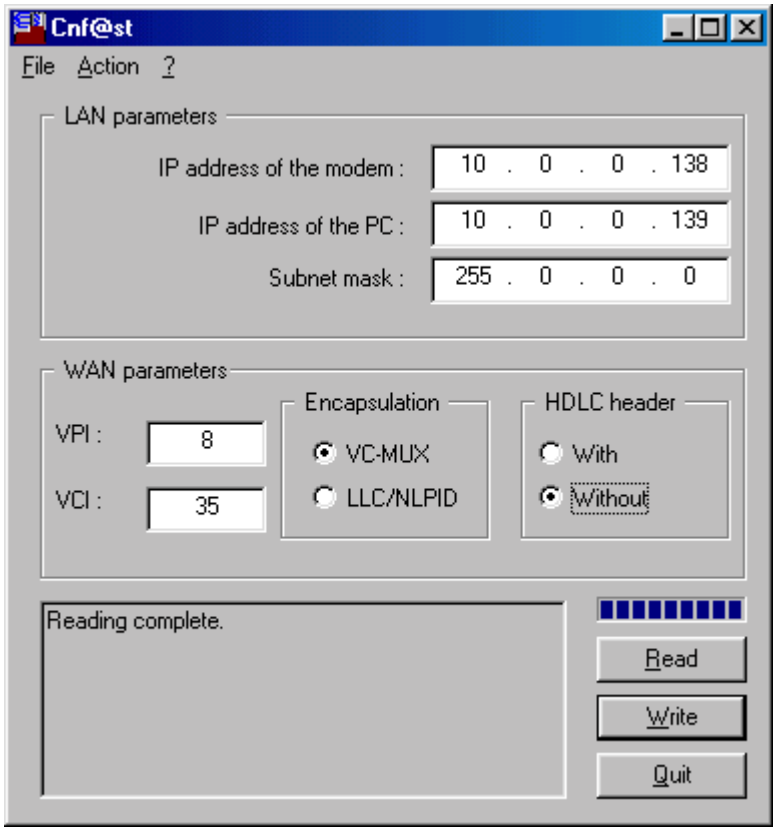
In case of conflict between the IP configuration of the PC and the modem's IP address, the install program displays the following screen:



➢ Change the modem's IP address as well as the IP address supplied by the modem to the PC.

➢ Click **Yes** to finish the installation.

If the modem configuration is modified, the modem must be restarted for the modified parameters to be taken into account.

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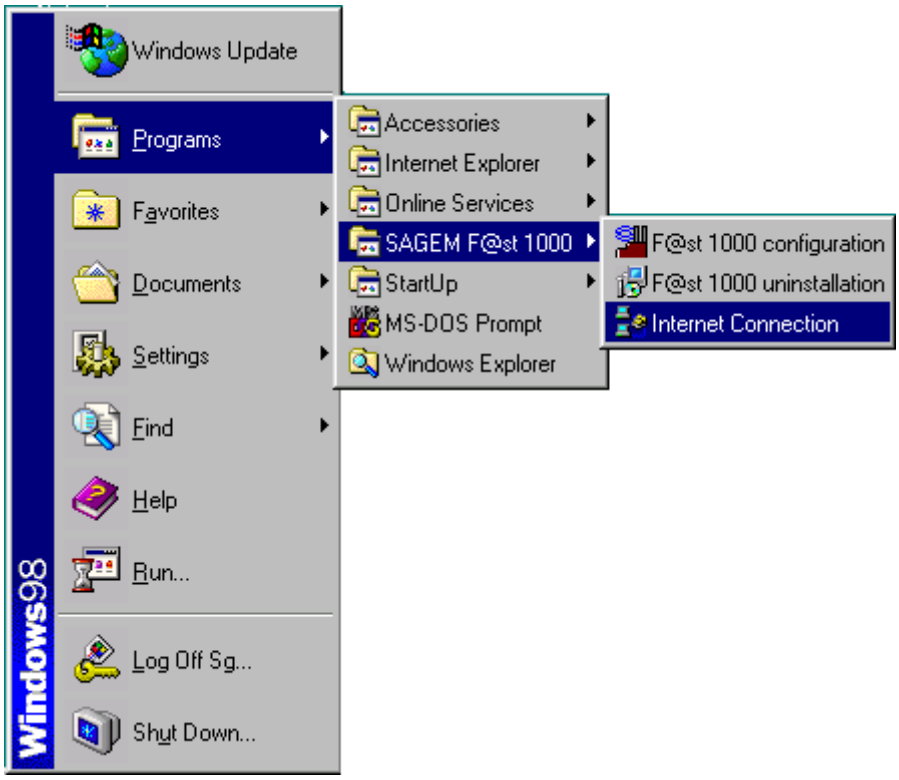
3.5.2 Connecting to / disconnecting from Internet

The install program created:

- a shortcut in the Windows 98FE desktop, to establish directly a connection to Internet.

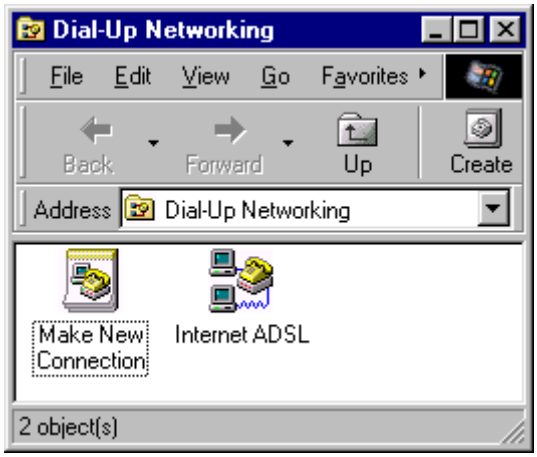
- the *SAGEM F@st 1000* group in the Windows 98FE **Start/Programs** menu,



or for experts, an Internet connection icon in the **Dial-Up Networking** group; to find it:

➢ double-click on the WINDOWS 98FE **My computer** icon, then on **Dial-Up Networking**.

The following screen appears:



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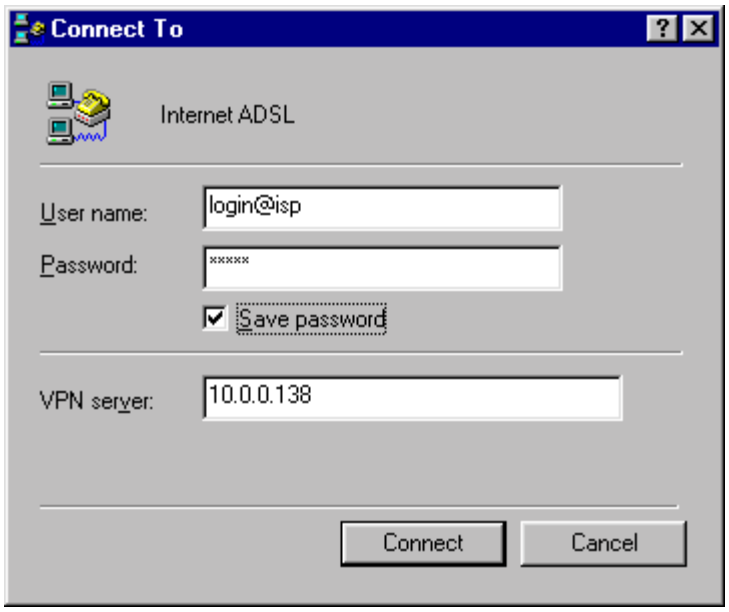
Connecting

To connect to Internet, you can either:

- double-click on the **ADSL Internet** shortcut located on the Windows desktop,
- or double-click on the **ADSL Internet** icon of the **Dial-Up Networking** group.
- or click *SAGEM F@st 1000* then **Internet Connection** in the **Start/Programs** menu.

NOTE: when you first connect, Windows asks you to specify the general dialing parameters (country, regional code, external line prefix). This screen has no effect on the ADSL connection but must be completed (arbitrarily) to access the following screens. This screen no longer appears at later connections.

The following screen appears:



In this window,

- enter your **User name** (obtained from your Internet Access Provider),
- enter your **Password** (obtained from your Internet Access Provider),
- check the box **Save password** if you want,
- check that the IP address of the VPN server is the same as the modem's,
- then click the **Connect** button.

The connection proceeds: the modem's DATA indicator light blinks. After a few seconds, the connection is made.

You can then run the WEB browser of your choice (e.g. Internet Explorer 5) to explore the Internet.

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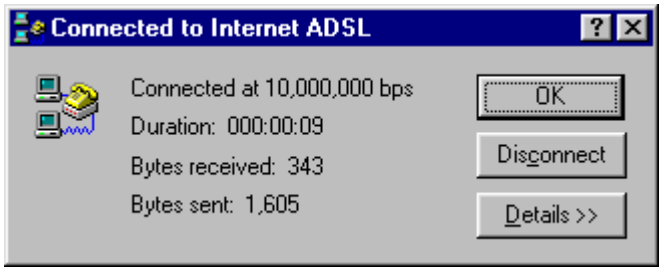
Disconnecting

To disconnect, you can either:

- double-click on the **ADSL Internet** shortcut located on the Windows desktop,
- or double-click on the **ADSL Internet** icon of the **Dial-Up Networking** group.

The following screen appears:



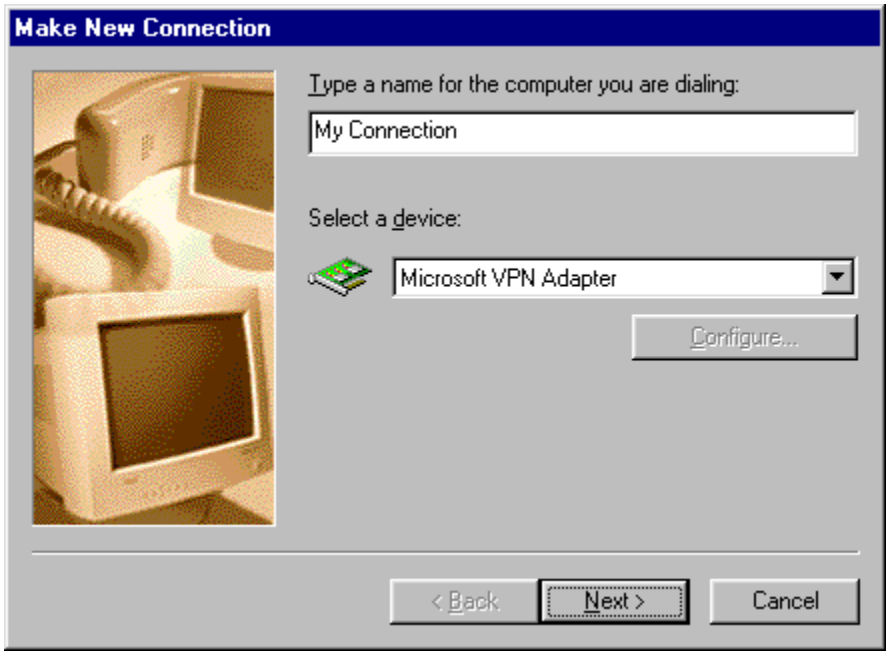
- Click on the **Disconnect** button.

3.5.3 Configuring a new dial-up connection

The installation program created and configured a connection icon to the ADSL (**My computer** - **Dial-Up Networking**).

If you want to configure other connections or change certain ATM settings:

- Click on **Make New Connection**.



- Enter the name of the connection (e.g. **My connection**).

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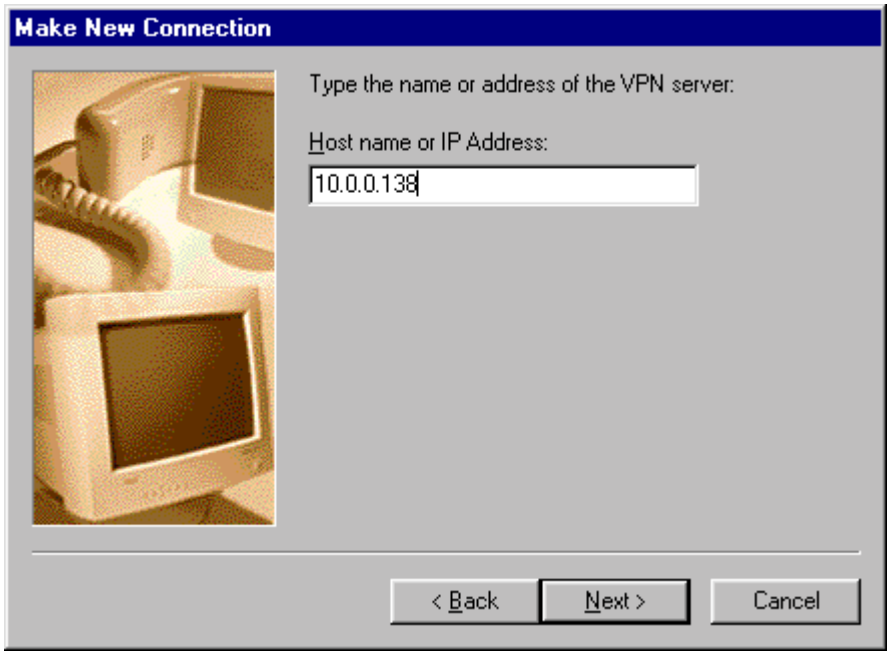
➢ Select **Microsoft VPN Adapter**, then click **Next**.



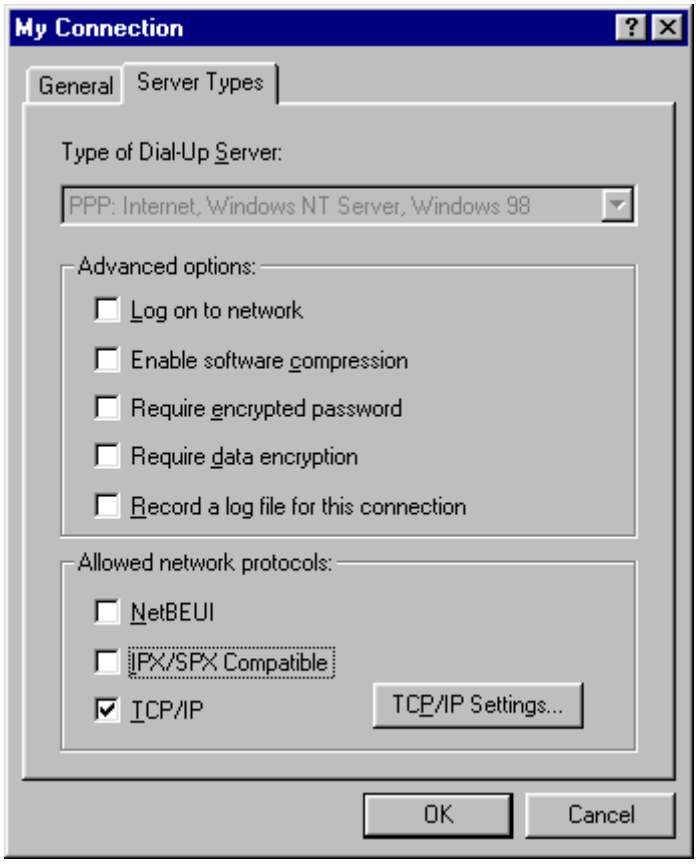
➢ Enter the IP address of the modem (it is the VPN server).

➢ Click **Next**, then **Finish**.

On the icon for the newly created connection:

➢ Right-click and choose **Properties**.

➢ Select the tab **Server Type**:



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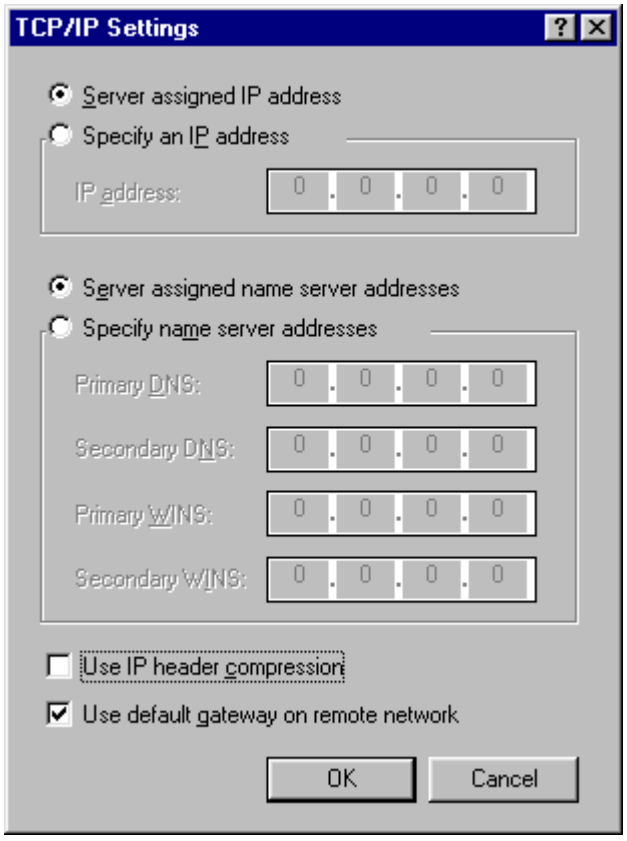
➢ Choose the options:

In **Advanced options**:
- disable **Log on to network**,
- disable **software compression**.

In **Allowed network protocols**:
- disable the NetBEUI and IPX/SPX protocols,
- enable the TCP/IP protocol.

➢ Click on the **TCP/IP settings** button:



➢ Choose the options:
- enable **Server assigned IP address**,
- enable **Server assigned name server addresses**,
- disable **IP header compression**,
- enable **Use default gateway on remote network**.

Then click **OK** twice until the new connection properties closes.

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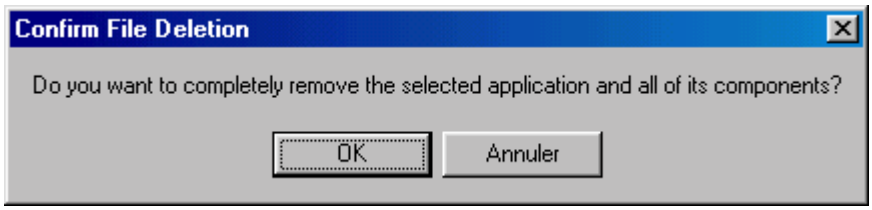
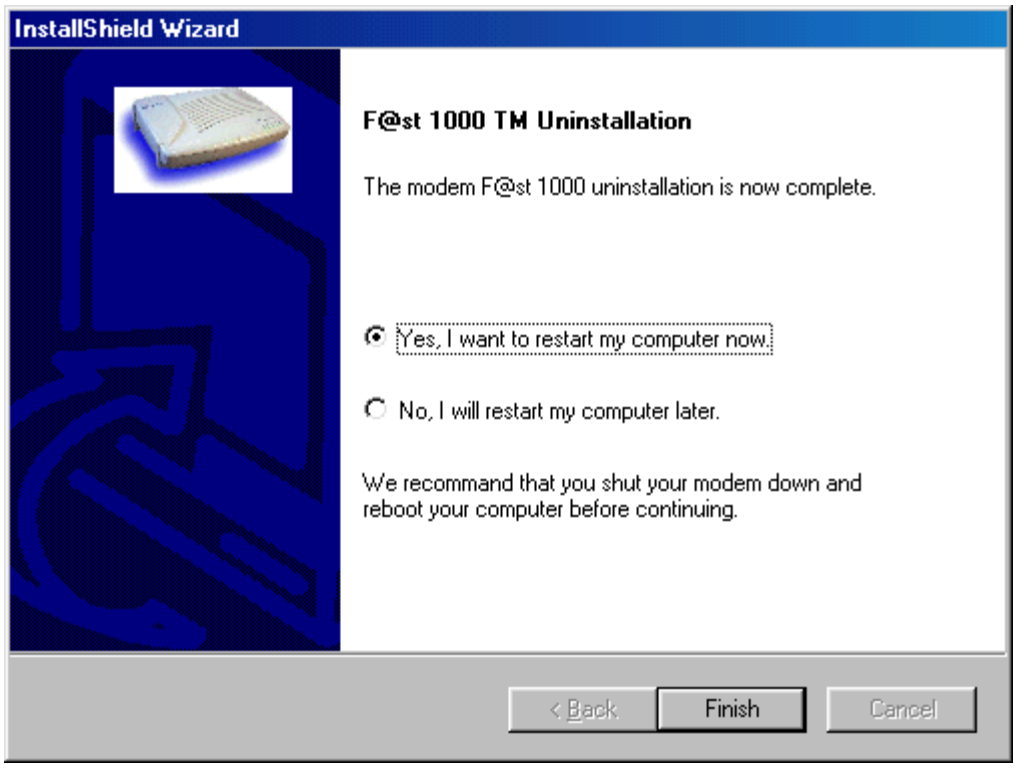
3.5.4 Uninstalling the modem

- Switch off the modem by unplugging the power supply cable either on modem side (connector marked **PWR**), or on the mains side.
- In the Windows 98FE **Start** menu, select **Programs** then **SAGEM F@st 1000** and finally **Uninstall F@st 1000**.

Confirm the removal when Windows prompts you.



- Click **OK**; the following screen appears:


InstallShield Wizard
F@st 1000 TM Uninstallation
The modem F@st 1000 uninstallation is now complete.
Yes, I want to restart my computer now.
No, I will restart my computer later.
We recommand that you shut your modem down and reboot your computer before continuing.
< Back
Finish
Cancel

WARNING: you must switch off the modem before rebooting the PC

The modem is uninstalled.

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3.6 Installing for Windows 98 Second Edition

For Windows 98 Second Edition, installation of the SAGEM F@st™ 1000 modem is carried out according to the following process:

- Installing the modem drivers,
- Configuring a new dial-up connection.

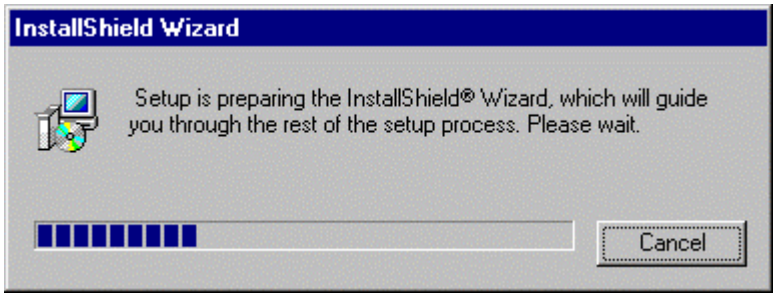
3.6.1 Installing the modem

- Switch off the modem if it is powered by unplugging the power supply cable either on the modem side (connector marked **PWR**), or on the mains side.
- Switch on the PC and wait for the complete startup of Windows 98SE.
- Insert the installation CD-ROM; the welcome page appears after a few seconds.

  If this screen does not appear automatically proceed as follows:

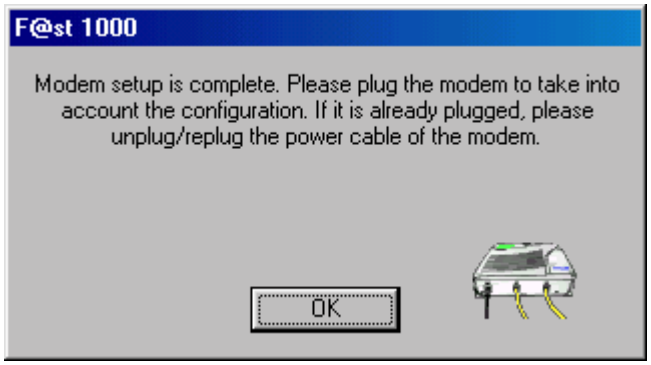
  From the **Start** menu select **Run** then enter **<Drive letter for the CD-ROM>:\English\Setup.exe**.
- Select **Modem setup** on this page.

The following screen appears:


InstallShield Wizard
Setup is preparing the InstallShield® Wizard, which will guide you through the rest of the setup process. Please wait.
Cancel

The install program copies the files necessary for the installation onto the PC's hard drive.

- Make the modem connections when the application prompts you.


F@st 1000
Modem setup is complete. Please plug the modem to take into account the configuration. If it is already plugged, please unplug/replug the power cable of the modem.
OK

- Connect the modem to the PC with the USB cable, and to the telephone line (ADSL) with the line cable.
- Connect the power supply cable to the modem (connector marked **PWR**), then connect the mains adapter to power up the SAGEM F@st™ 1000.

After connecting the modem, the PC installs the drivers ADSLBOOT, VVBusUSB and VVBATM.

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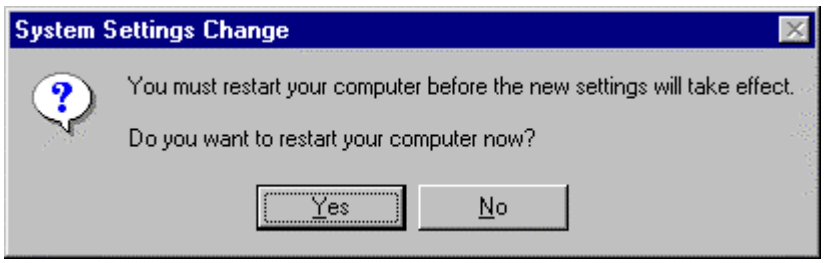
➢ Insert the Windows 98SE installation CD-ROM, when Windows prompts you.

Windows then asks if you want to restart the PC to validate the new network settings.


System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

➢ Click **Yes** to finish the installation of your ADSL modem.

The PC must be rebooted for the modem to function correctly.

A correctly set Internet connection icon (IP and ATM settings) is automatically created in the **Dial-Up Networking** group, as well as a shortcut on this icon on the Windows 98FE desktop and a command line in the **Start/Programs** menu (see 3.6.2).

Installation of the modem is now finished.

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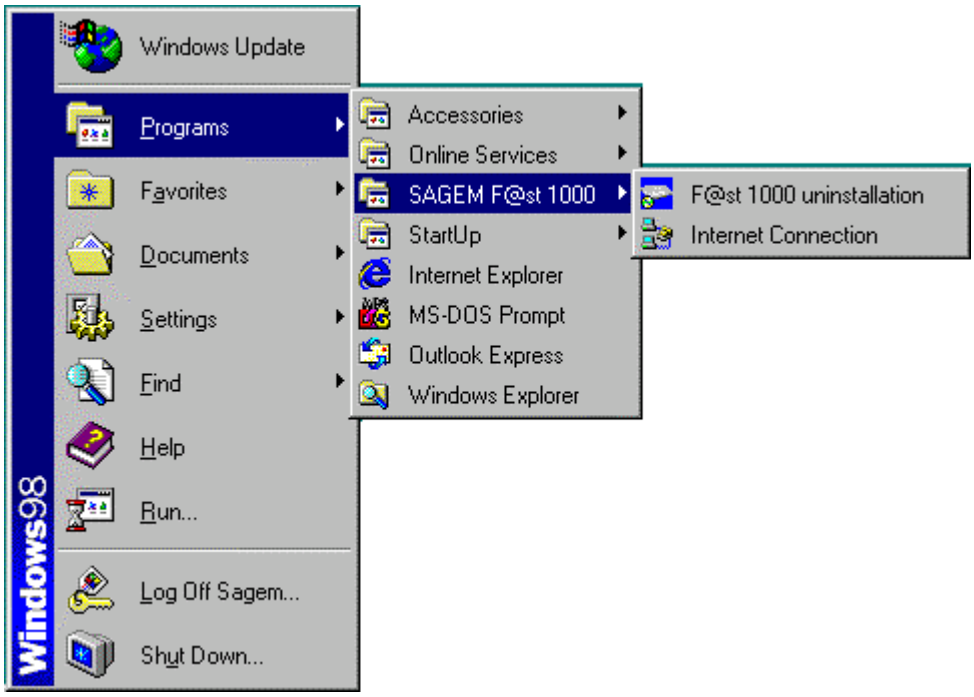
3.6.2 Connecting to / disconnecting from Internet

The install program created:

- a shortcut in the Windows 98FE desktop, to establish directly a connection to Internet.

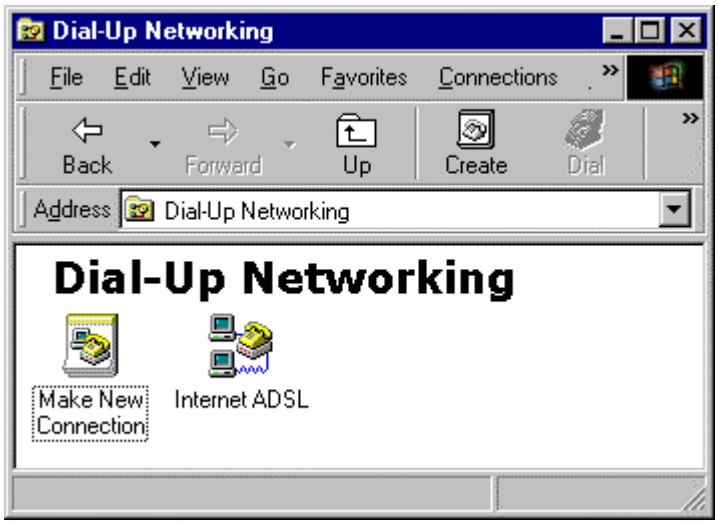
- the **SAGEM F@st 1000** group in the Windows 98SE **Start/Programs** menu,



or for experts, an Internet connection icon in the **Dial-Up Networking** group; to find it:

➢ double-click on the Windows 98SE **My computer** icon, then on **Dial-Up Networking**.

The following screen appears:



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Connecting

To connect to Internet, you can either:

- double-click on the **ADSL Internet** shortcut located on the Windows desktop,
- or double-click on the **ADSL Internet** icon of the **Dial-Up Networking** group.
- or click **SAGEM F@st 1000** then **Internet Connection** in the **Start/Programs** menu.

The following screen appears:

In this window,

- Enter your **User name** (obtained from your Internet Access Provider),
- Enter your **Password** (obtained from your Internet Access Provider),
- Check the box **Save password** if you want,
- Then click the **Connect** button.

The connection proceeds: the modem's DATA indicator light blinks. After a few seconds, the connection is made.

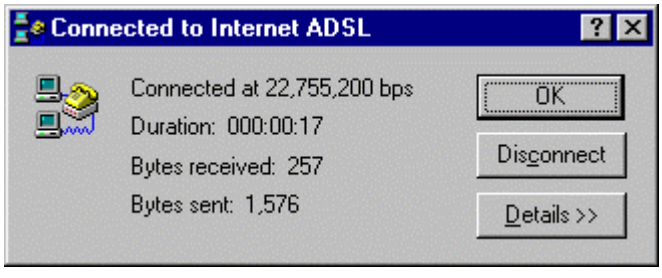
You can then run the WEB browser of your choice (e.g. Internet Explorer 5) to explore the Internet.

Disconnecting

To disconnect, you can either:

- double-click on the **ADSL Internet** shortcut located on the Windows desktop,
- or double-click on the **ADSL Internet** icon of the **Dial-Up Networking** group.

The following screen appears:



- Click on the **Disconnect** button.

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3.6.3 Configuring a new dial-up connection

The installation program created and configured a connection icon to the ADSL (**My computer** - **Dial-Up Networking**).

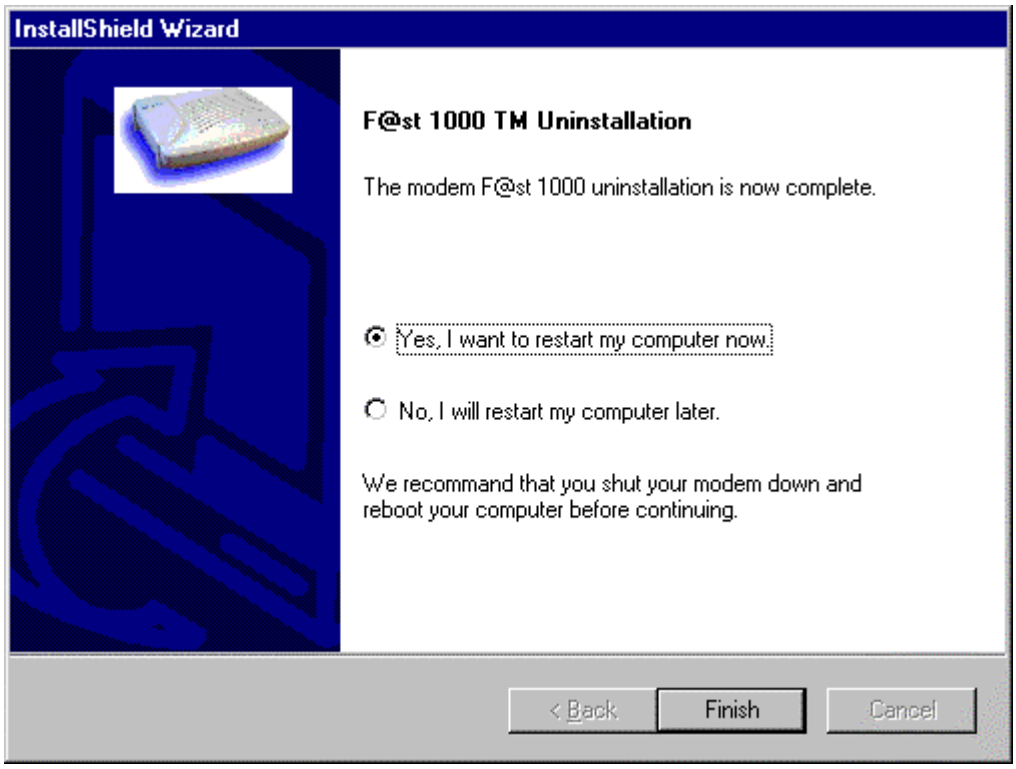
If you want to configure other connections or change any ATM settings, the procedure is the same as that already given for Windows ME (see 3.4.3).

3.6.4 Uninstalling the modem

- Switch off the modem by unplugging the power supply cable either on modem side (connector marked **PWR**), or on the mains side.
- In the Windows 98SE **Start** menu, select **Programs** then **SAGEM F@st 1000** and finally **Uninstall F@st 1000**.

Confirm the removal when Windows prompts you.

- Click **OK**; the following screen appears:


InstallShield Wizard
F@st 1000 TM Uninstallation
The modem F@st 1000 uninstallation is now complete.
Yes, I want to restart my computer now.
No, I will restart my computer later.
We recommand that you shut your modem down and reboot your computer before continuing.
< Back
Finish
Cancel

WARNING: you must switch off the modem before rebooting the PC

The modem is uninstalled.

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3.7 Reading the software version of the product

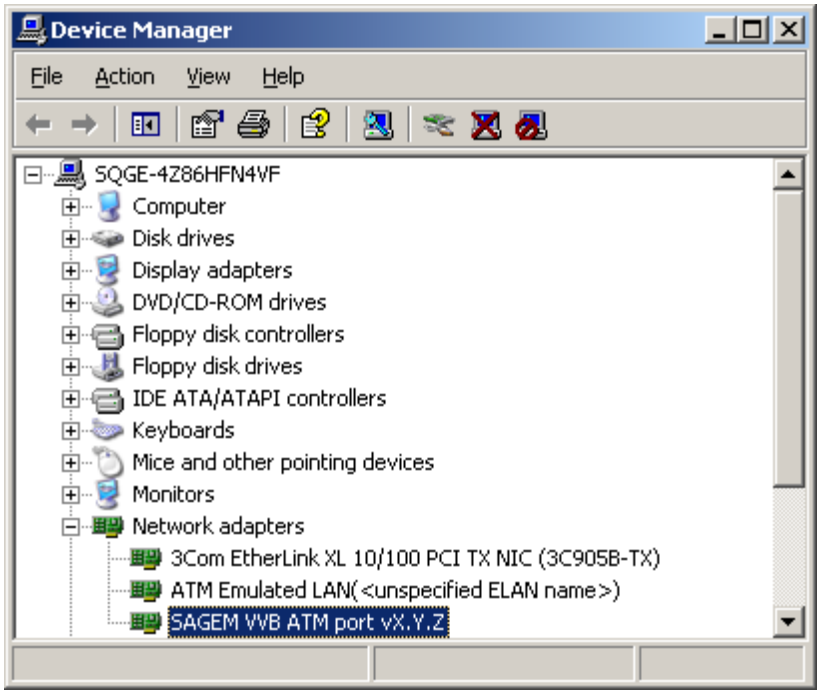
When your modem is installed, you can view the program version.

3.7.1 For WIN XP

- In the **Start** menu, select **My computer** : a new screen appears. Select **View system information** ; the **System Properties** window appears. Select the **Hardware** panel then click on the **Device Manager** button.
- Drop down the list of the installed network adapters by clicking twice on **Network adapters**.

The SAGEM modem is shown in this list, with the software version:

SAGEM VVB ATM port [version X.Y.Z].



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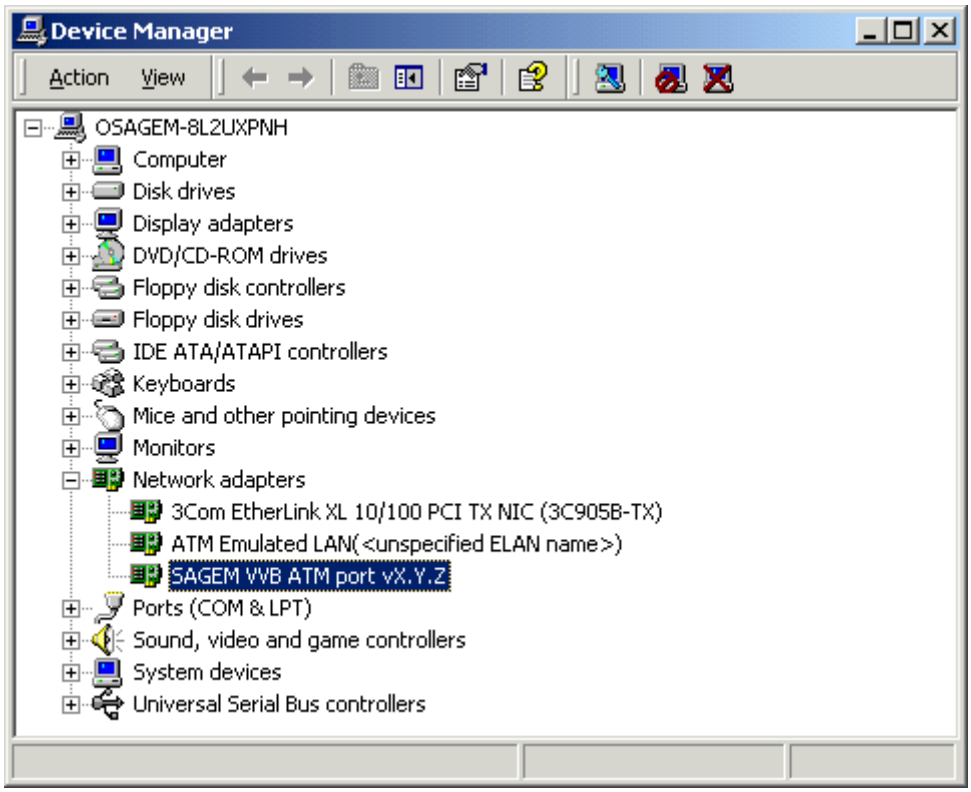
3.7.2 For WIN 2000

- In the **Start** menu, select **Settings**, then **Control Panel**.
- Double-click on the **System** icon.
- Select the **Hardware** tab, then click on **Device manager**…. Windows displays a list of installed components.
- Drop down the list of the installed network adapters by clicking twice on **Network adapter**.

The SAGEM modem is shown in this list, with the software version:

SAGEM VVB ATM port [version X.Y.Z].



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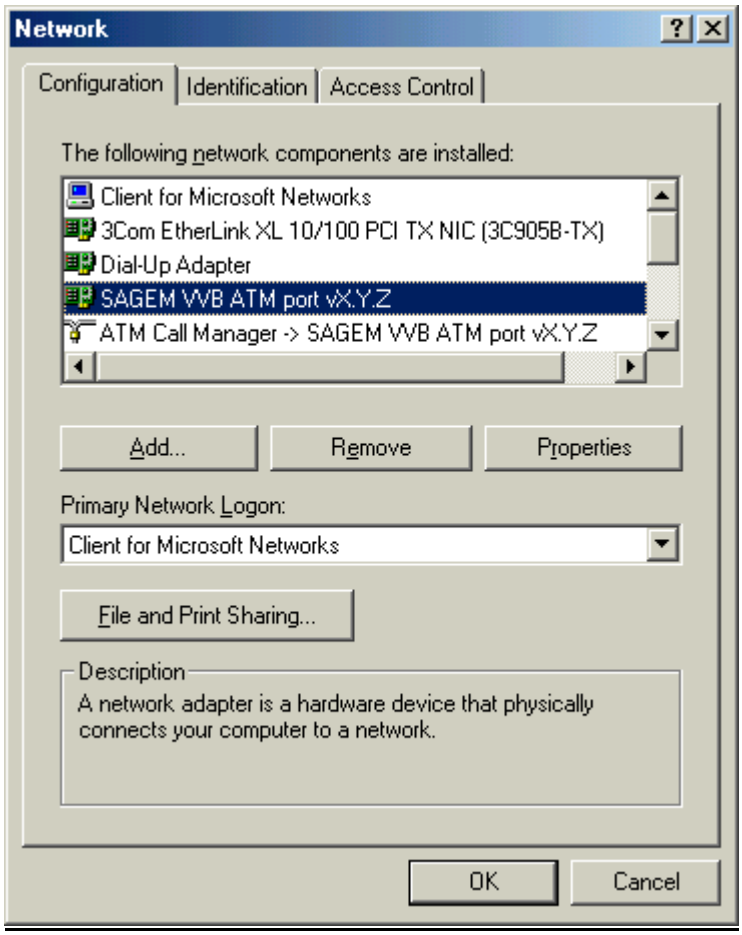
3.7.3 For WIN ME

- Right-click on the **Network favorites** icon.
- Select **Properties**, Windows then displays a list of the network components installed.

The SAGEM modem is shown in this list, with the software version:

SAGEM VVB ATM port [version X.Y.Z].



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3.7.4 For WIN 98FE

- Right-click on the **My computer** icon.
- Select **Properties**, Windows then displays a list of the network components installed.

The SAGEM modem is shown in this list, with the software version:

SAGEM VVB Ethernet Port vX.Y.Z

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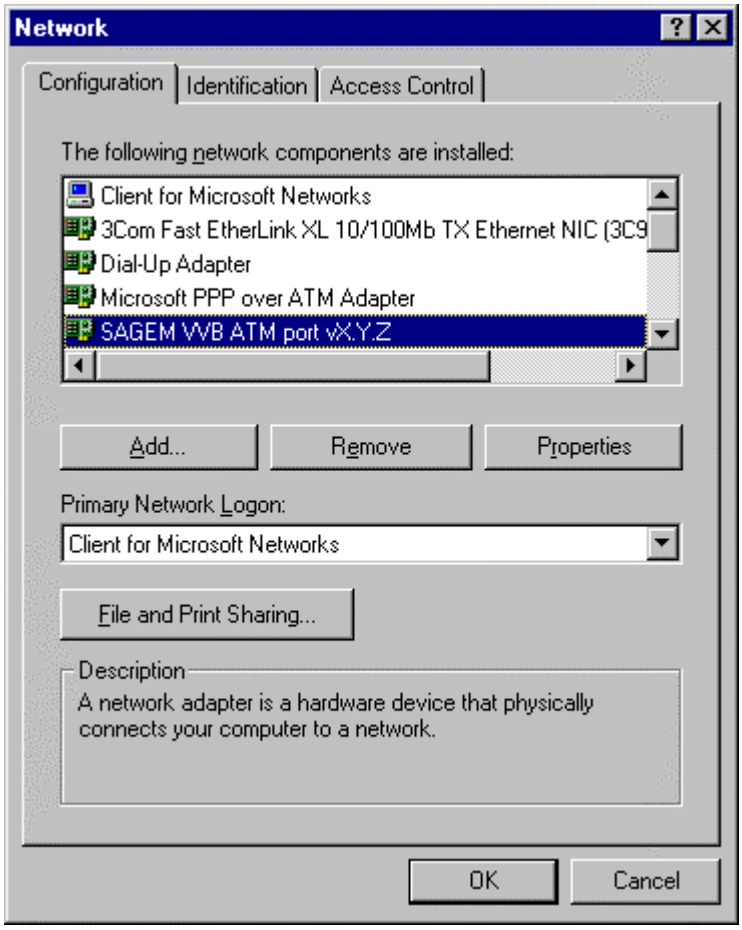
3.7.5 For WIN 98SE

- Right-click on the **Network neighborhood** icon.
- Select **Properties**, Windows then displays a list of the network components installed.

The SAGEM modem is shown in this list, with the product program version:

SAGEM VVB ATM port [version X.Y.Z].



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4. Troubleshooting the SAGEM F@st™ 1000 modem

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You can also consult the "support.txt" file which you will find on the Installation CD-ROM of the SAGEM F@st™ 1000 modem.

4.1 Reinstallation of the drivers after an incomplete installation

If the installation of the drivers failed or if the installation procedure was interrupted during the process, proceed as follows to reinstall the software.

- Switch off the modem if it is powered.
- Uninstall the modem drivers using the **F@st1000 Uninstallation** command created by the installation software in the **Start** menu of Windows.
  - For Windows 98, Windows Millennium and Windows 2000 :

    Start / Programs / SAGEM F@st1000 / F@st1000 uninstallation
  - For Windows XP :

    Start / All Programs / SAGEM F@st1000 / F@st1000 uninstallation

  If the **F@st1000 Uninstallation** command does not exist in the **Start** menu of Windows, proceed as follows to get it :
  - Make sure the modem is switched off.
  - Insert the CD-ROM SAGEM F@st™ 1000.
  - When the welcome screen appears, click on **Install the modem** to start the installation procedure.
  - When Windows indicates "Modem setup is complete…", DO NOT PLUG the modem but click on **OK** to shut down the message box. The **F@st1000 Uninstallation** command should now appear in the **Start** menu of Windows.
- Reinstall the drivers of the modem following instructions of chapter 3.

If the installation of the drivers fails again or if Windows doesn't detect the modem when it is switch on, proceed as follows to clear any contamination of Windows registry.

- Check that the power supply cable is plugged in the modem (connector marked **PWR**), then connect the mains adapter to power up the SAGEM F@st™ 1000. Connect the modem to the PC using the USB cable.
- Open the Device Manager as explained below.

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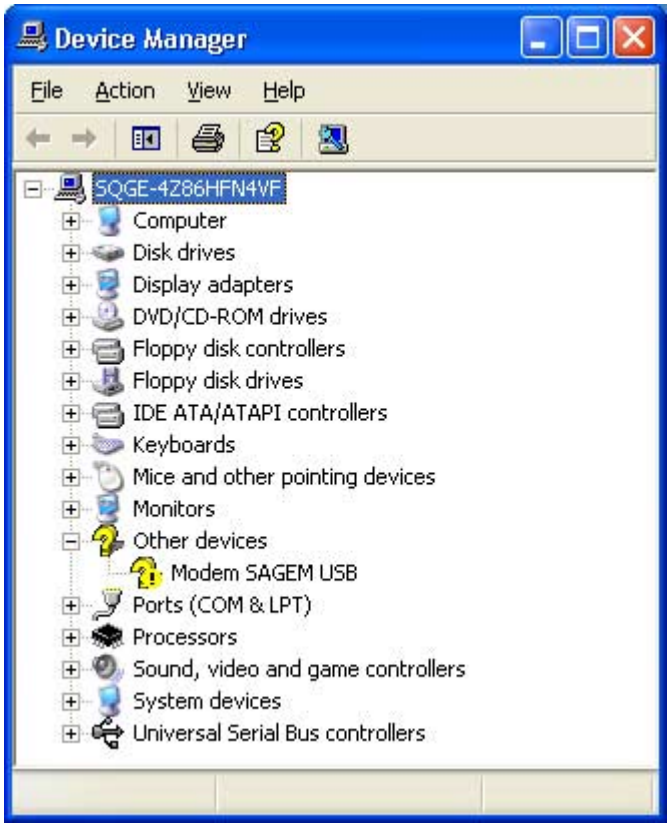
4.1.1 For Windows XP

- In the **Start** menu, select **My computer** : a new screen appears.
- Select **View system information** ; the **System Properties** window appears.
- Select the **Hardware** panel then click on the **Device Manager** button ; the following screen appears.



- Select **Modem SAGEM USB**.
- Right-click and choose **Uninstall** in the drop-down menu.
- Unplug the modem power supply connector, then restart the installation procedure.

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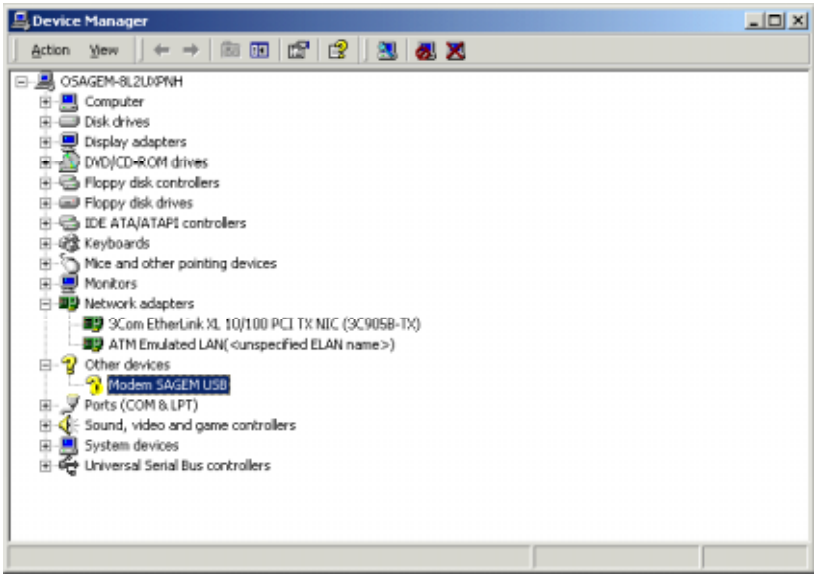
4.1.2 For Windows 2000

- Select the **My computer** icon on the Windows desktop.
- Right-click and choose **Properties**.
- Click on the **Device manager** button.

The following screen appears.



- Select **Modem SAGEM USB**.
- Right-click and choose **Uninstall** in the drop-down menu.
- Unplug the modem power supply connector, then restart the installation procedure.

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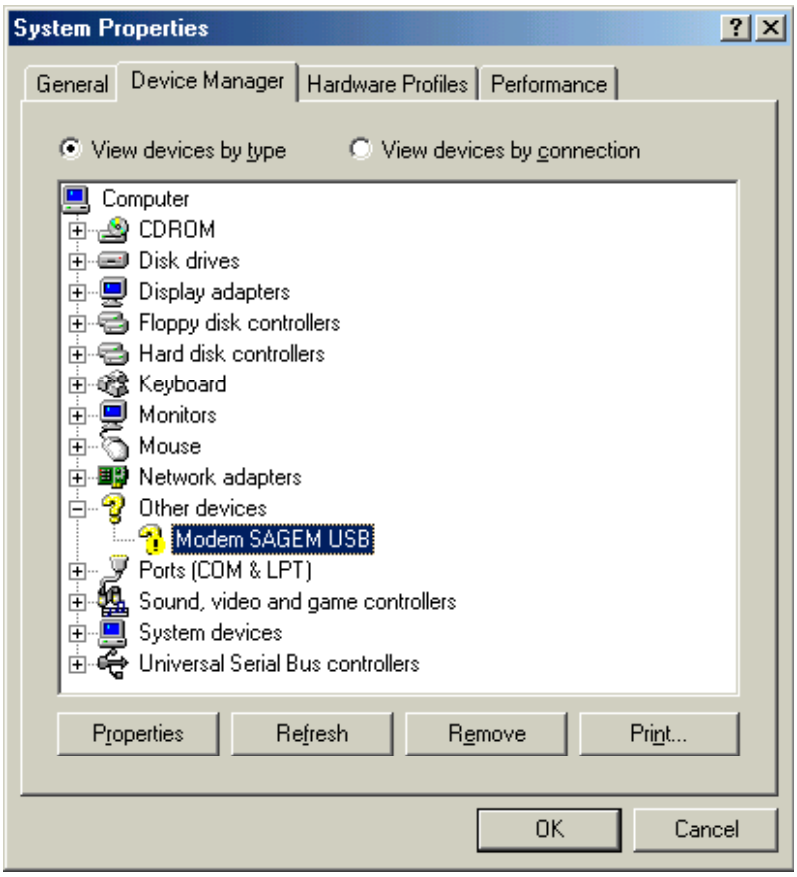
4.1.3 For Windows ME, Windows 98FE and Windows 98SE

- Select the **My computer** icon on the Windows desktop.
- Right-click and choose **Properties**.
- Select the **Device manager** tab and click on **Other devices**.

The following screen appears.



- Select **SAGEM USB Modem**, then **Remove**.
- Unplug the modem power supply connector, then restart the installation procedure.

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4.2 Interpreting the LEDs

Four indicator lights on the front of the SAGEM F@st™ 1000 let you see the progress of the WAN connection and follow the operation of the modem at the same time.

Ignore these indicator lights in the first seconds after starting the modem, because they are not yet stable.

4.3 Operating alarms

These events represent problems that appear in SAGEM F@st™ 1000 operation. They can be diagnosed using the green LEDs:

- All the LEDs are on steady, see section 4.3.6.
- All LEDs off:
  - Check that the type of power supply available in your premises is correct for the mains adapter unit supplied with the SAGEM F@st™ 1000 (see the label on the adapter).
  - Check that the power supply adapter supplied is powered by the network.
  - Check that the power adapter's 4-way MINI-DIN connector is correctly inserted in the appropriate socket (PWR) on the SAGEM F@st™ 1000.

Apart from the above cases, the table below specifies the meaning of the various LEDs on the modem cover.

Marking	**PWR**	**LINE**	**USB**	**DATA**
Assignment	Power supply	ADSL link	USB activity	ADSL data
Color	Green	Green	Green	Green
On steady	SAGEM F@st™ 1000 powered up	ADSL connected	USB active	_
Off	No power supply (see § 4.3.1)	_	USB not active (see 4.3.4)	No activity on ADSL link (see § 4.3.5)
Blinking	_	ADSL being connected (see § 4.3.3)	_	Activity on ADSL link

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4.3.1 "PWR" LED off

This state indicates that the SAGEM F@st™ 1000's internal DC power supply is not functioning.

- Check for mains voltage at the power outlet.
- Check that the mains adapter unit is correctly connected to the mains outlet and that the 4-way MINI-DIN connector terminating the cable from the unit is correctly plugged into the PWR socket on the SAGEM F@st™ 1000 unit.

4.3.2 PWR indicator blinking continuously

- Contact the supplier of your SAGEM F@st™ 1000 modem.

4.3.3 "LINE" LED blinking

This means that the SAGEM F@st™ 1000 is trying to connect to the remote exchange. This indicator remains in this state until the modem is connected to an active ADSL line.

ADSL connection takes under one minute after connecting the ADSL line.

- If, however, after the connection time, the LED is still blinking:
  - Check that the SAGEM F@st™ 1000 is correctly connected to the ADSL line (either directly or via a splitter or via a microfilter).
  - Check that the pins of the RJ11 connectors are neither soiled nor damaged.
  - Check with your Service Provider that the ADSL mode is indeed activated on the telephone line that you want to use.
  - Check with your Service Provider that the ADSL link provided on the line is compliant with one of the three transmission standards supported by the SAGEM F@st™ 1000:

    - ANSI T1.413 I2,
    - G.992.1 (G.dmt),
    - G.992.2 (G.lite).

4.3.4 "USB" LED off

- Check that the Type B/Type A USB cable is connected to your computer.

4.3.5 "DATA" LED off

- Check that the SAGEM F@st™ 1000 is correctly connected to the ADSL line (LINE LED lit).
- Check that the pins of the RJ11 connector are neither damaged nor worn.
- Check with your Internet Access Provider that the ADSL mode has been activated on the telephone line that you want to use.

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4.3.6 All LEDs lit

This state indicates that the software has not been correctly downloaded from the PC to the modem. This may happen if the installation procedure is interrupted before it is finished.

Proceed as follows :

- Disconnect then reconnect the USB cable between the PC and the modem.

If the modem still doesn't start up :

- Disconnect then reconnect the power cable from the modem.

If the problem remains, uninstall the drivers and restart the installation of the software as described in § 4.1.

4.4 No access to the wide area network

The LEDs should indicate that your equipment is ***operating normally:***

PWR	LINE	USB	DATA
Green, on steady	Green, on steady	Green, on steady	Green, blinking (with data) Off (without data)

- If they do, a link is theoretically set up between your SAGEM F@st™ 1000 and the wide area network.
- If not, refer to section 4.3.

However, you may have problems accessing a WEB page or a remote machine.

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4.5 Problems with your network's analog terminals

Whistling or audible noises in the telephone channel:

- Check that the input splitter or the microfilter associated with the terminal is correctly connected.

Malfunctioning analog fax or modem:

- Check that the input splitter or microfilter associated with the terminal is correctly connected.

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5. Appendice

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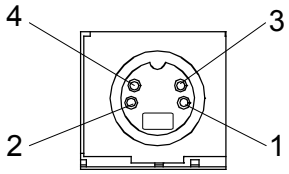
5.1 SAGEM F@st™ 1000 interfaces

5.1.1 "PWR" connector

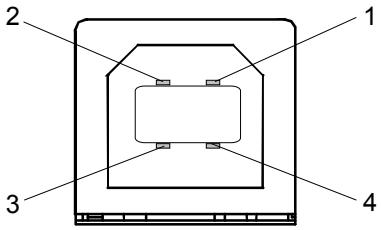
The mains adapter is connected to the equipment via a 4-way MINI-DIN socket.



Pin N°	Signal	Meaning
1	Ground	0 V
2	+17 V	Secondary voltage 1
3	+5.5 V	Secondary voltage 2
4	Ground	0 V

5.1.2 "USB" connector pinout

The "USB" interface is connected to the equipment via a type B USB socket.



Pin N°	Signal	Meaning
1	Vcc	PC power supply (+)
2	- Data	Subscriber line signal
3	+ Data	Subscriber line signal
4	Ground	Ground

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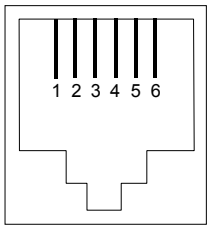
5.1.3 "LINE" connector pinout

The equipment is connected to the "wide area network" via a 6-way RJ11 socket.



Pin N°	Signal	Meaning
3	LINE-A	Subscriber line A signal
4	LINE-B	Subscriber line B signal
1	NC	Not connected
2	NC	Not connected
5	NC	Not connected
6	NC	Not connected

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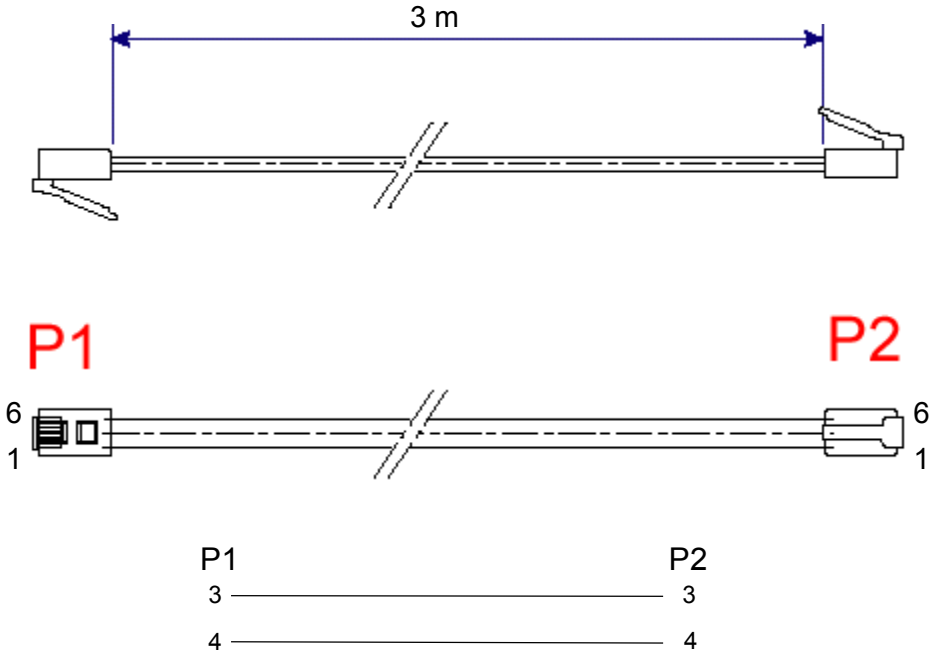
5.2 Wiring of SAGEM F@st™ 1000 cables

5.2.1 RJ11 / RJ11 LINE cable



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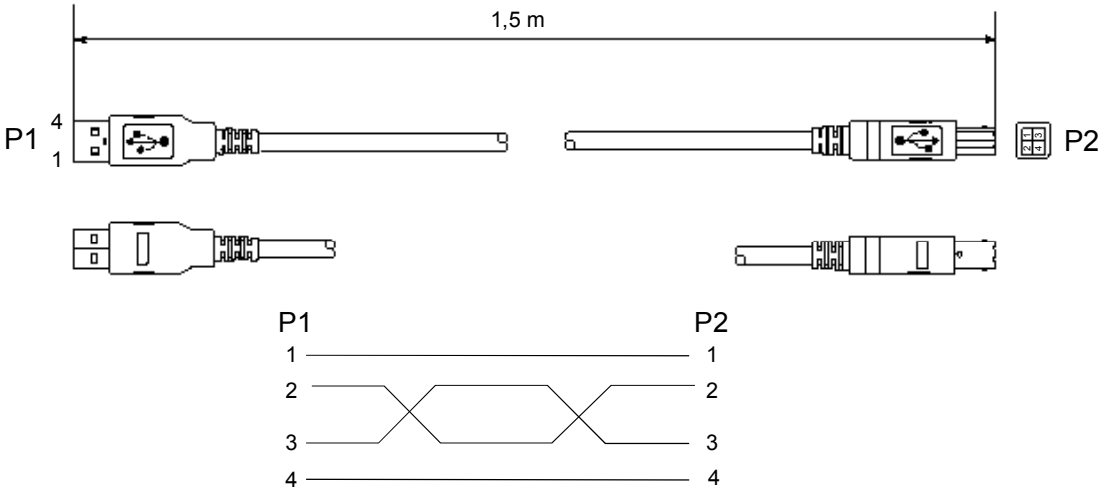
5.2.2 Type A / Type B USB cable



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5.3 Technical specifications

5.3.1 Equipment specifications

Interface specifications	
USB	
Bit rate	< 12 Mbit/s
Standard	USB 1.0
Data	Asynchronous
Transmission mode	Bidirectional
Connector	USB - Type B
ADSL	
Transmission code Standards supported (*) Maximum upstream rate Maximum downstream rate Latency	DMT (Discrete Multi Tone) T1.413 Ed.2 G.992.1 (G.dmt) G.992.2 (G.lite) G.994.1 (Handshake ADSL) 896 kbit/s 8160 kbit/s Simple latency (Fast or Interleave)
Connector	RJ11 (pins 3 and 4)
Mechanical specifications	
Dimensions (mm)	Width : 188 mm Depth : 142 mm Thickness : 45 mm
Weight	800 g
Installation	Desktop

(*) Depending on the installed software.

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Display		
Four LEDs	PWR	Power supply
	LINE	ADSL link
	USB	Presence of USB
	DATA	Activity on WAN
Mains power supply specification		
Type	External adapter unit	
Class	II	
Mains voltage	198 to 253 V , 50 Hz / 60 Hz	
Output voltage/current	5.5 V / 800 mA and 17 V / 80 mA	
Load consumption	10 W at 230 V	
Environmental specifications		
Climatic environment		
Warehousing		
Standard	ETS300 019-1-1, class T 1.2	
Temperature	-25°C to +55°C	
Relative humidity	10 to 100%	
Transport		
Standard	ETS300 019-1-2, class T 2.3	
Temperature	-40°C to +70°C	
Relative humidity	10 to 100%	
Operation		
Standard	ETS300 019-1-3, class T 3.2	
Temperature	-5°C to +45°C	
Relative humidity	5 to 85%	
Pressure	84 hPa to 106 hPa (880 to 1060 mbar)	
Solar radiation	700 w/m^2	
Mechanical environment		
Standard	ETS 300 019-1	
Warehousing	Class T 1.2	
Transport	Class T 2.3	
Operation	Class T 3.2	
Physical/chemical environment		
Standard	ETS 300 019-1	
Warehousing	Class T 1.2	
Transport	Class T 2.3	
Operation	Class T 3.2	

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Electromagnetic compatibility	
Radiated and conducted interference	EN 55022 class B
Immunity to disturbances	EN 61000-3-2 EN 55024
Electrical robustness	ITU K.21 CSE I 31-21 (France Telecom)
Safety	EN 60950 and Amendments A1, A2, A3, A4 and A11
Hardware	
Processor	Helium (Virata)
ADSL circuit	ASCOT (STM)
Marking	CE
Packaging	ETS300 019-1-2, class T 2.3

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5.3.2 Software specifications

ATM	
Signaling	PVC
Adaptation	AAL5
Number of VCs	1 VC
Traffic classes	UBR
Encapsulation protocol	
RFC 2364	VC-MUX or LLC-SNAP

Note: In the interests of constantly improving the quality of its product, ***SAGEM SA*** reserves the right to upgrade any or all of the above specifications without prior notice.

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5.4 List of abbreviations

AAL	ATM Adaptation Layer
ADSL	Asymmetrical Digital Subscriber Link
ATM	Asynchronous Transfer Mode
DNS	Domain Name Server
ETS	European Telecommunication Standards
HPV	Hazardous Primary Voltage
IAP	Internet Access Provider
ID	Identification
IP	Internet Protocol
ISDN	Integrated Services Digital Network
PC	Personal Computer
PPP	Point to Point Protocol
PVC	Permanent Virtual Circuit
RFC	Request For Comment
SELV	Safe Extra Low Voltage
TCP	Transmission Control Protocol
TNV	Telecommunication Network Voltage
USB	Universal Service Bus
VCI	Virtual Channel Identifier
VPI	Virtual Path Identifier
VPN	Virtual Private Network
WAN	Wide Area Network

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